ORDER NO. MD9904061C2

Service Manual

Compact Disc Changer

MASH
multi-stage noise shaping

COMPACT disc DIGITAL AUDIO

SL-PD8

Colour

(K) . . . Black Type

Area

Suffix for Model No.	Area	Colour
(E)	Europe	(K)
(EB)	Great Britain	
(EG)	Germany and Italy	

TRAVERSE DECK : RAE0152Z-M Mechanism Series

Specifications

AUDIO

No. of channels	2 (left and right, stereo)
Frequency response	2 - 20000 Hz, ± 1 dB
Output voltage	2 V (at 0 dB)
Dynamic range	92 dB
S/N	100 dB
Total harmonic distortion	0.007% (1 kHz, 0 dB)
Wow and flutter	Below measurable limit
DA converter	MASH (1 bit)
Output impedance	Approx. 1 kΩ
Load impedance	More than 10 kΩ

PICKUP

Wavelength	780 nm

GENERAL

Power supply	AC 230 - 240 V, 50 Hz
Power consumption	9 W
Dimensions (W x H x D)	430 x 125 x 374 mm
Weight	4.5 kg

Notes : Specifications are subject to change without notice. Weight and dimensions are approximate.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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Contents

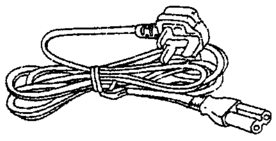
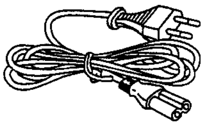
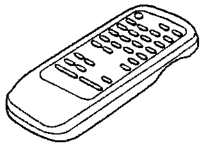
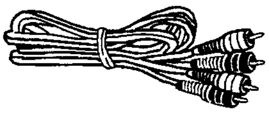
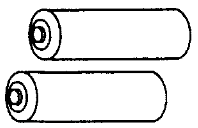
PAGE

- ACCESSORIES 2
- HANDLE PRECAUTIONS FOR TRAVERSE DECK 2
- PRECAUTION OF LASER DIODE 3
- CAUTION FOR AC MAINS LEAD 4
- CONNECTIONS 5
- FRONT PANEL CONTROLS 6
- BASIC OPERATIONS .... 7 ~ 10
- EDIT GUIDE FUNCTION 11
- OPERATION CHECKS .... 12 ~ 15
- TYPE ILLUSTRATION of IC's TRANSISTORS and DIODES 16
- TERMINAL FUNCTION OF IC's .... 16 ~ 18
- SELF-DIAGNOSTIC DISPLAY FUNCTION 19

PAGE

- TROUBLESHOOTING GUIDE 20
- SCHEMATIC DIAGRAM .... 21 ~ 26
- PRINTED CIRCUIT BOARD .... 27 ~ 29
- BLOCK DIAGRAM .... 30 ~ 32
- WIRING CONNECTION DIAGRAM 33
- CABINET PARTS LOCATIONS .... 34 ~ 35
- LOADING MECHANISM PARTS 36
- REPLACEMENT PARTS LIST .... 37 ~ 38
- RESISTORS & CAPACITORS .... 39 ~ 40
- PACKING MATERIALS & ACCESSORIES 40
- PACKAGING 40

Accessories

 AC power cord for United Kingdom	 AC power cord for others	 Remote control	 Stereo connection cable
 Batteries			

Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body. So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

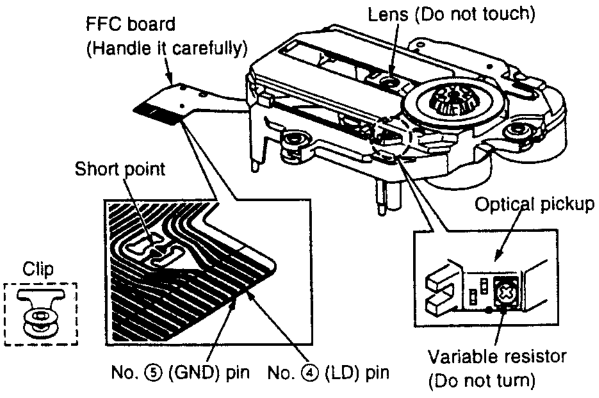
- **Handling of traverse deck (optical pickup)**

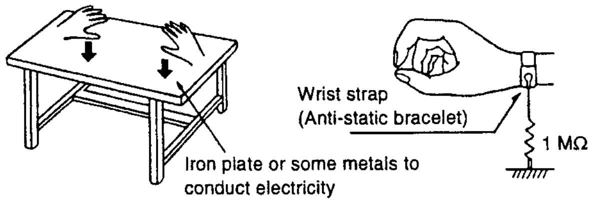
1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. The short land between the No.4 (LD) and No.5 (GND) pins on the flexible boards (FFC) is shorted with a solder build-up to prevent damage to the laser diode.
   To connect to the PC board, be sure to open by removing the solder build-up, and finish the work quickly.
3. Take care not to apply excessive stress to the flexible board (FFC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

- **Grounding for electrostatic breakdown prevention**

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conducive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.

Caution:
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).




Wrist strap
(Anti-static bracelet)
1 MΩ
Iron plate or some metals to conduct electricity

■ Precaution of Laser Diode

CAUTION : This product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens.

Wavelength: 780 nm
Maximum output radiation power from pick up: 100µW/VDE

Laser radiation from pick up unit is safety level, but be sure the followings:

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

ACHTUNG : Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge : 780nm
Maximale Strahlungsleistung der Lasereinheit : 100µ W/VDE

Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinhit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

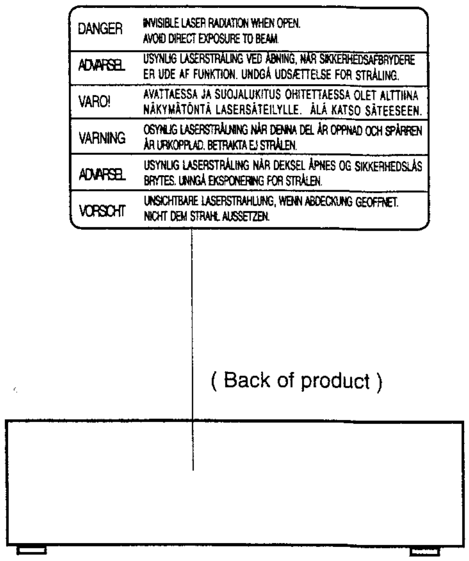
ADVARSEL : **I dette a apparat anvendes laser.**

CAUTION !
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

■ Use of Caution Labels

CLASS 1
LASER PRODUCT

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT



DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTÖNTÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR OPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEOFFNET. NICHT DEM STRAHL AUSSETZEN.

■ Caution for AC Mains Lead

(For "EB" area code model only.)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark ◈ or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION !
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OFF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

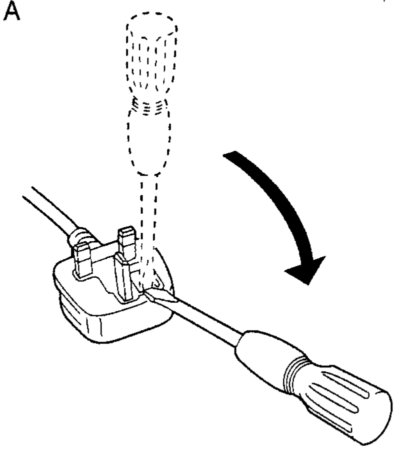
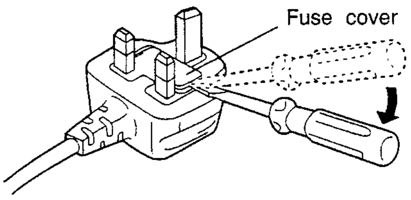


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

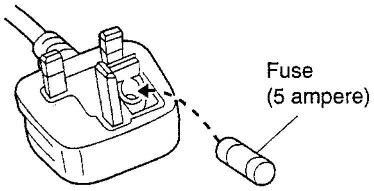
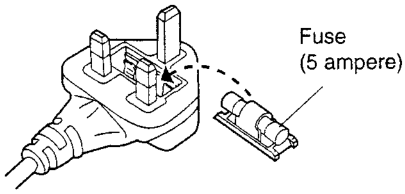
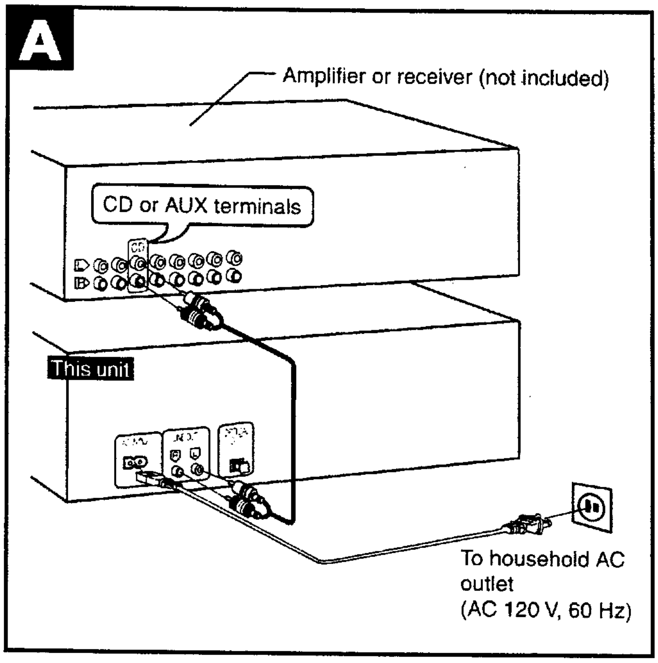
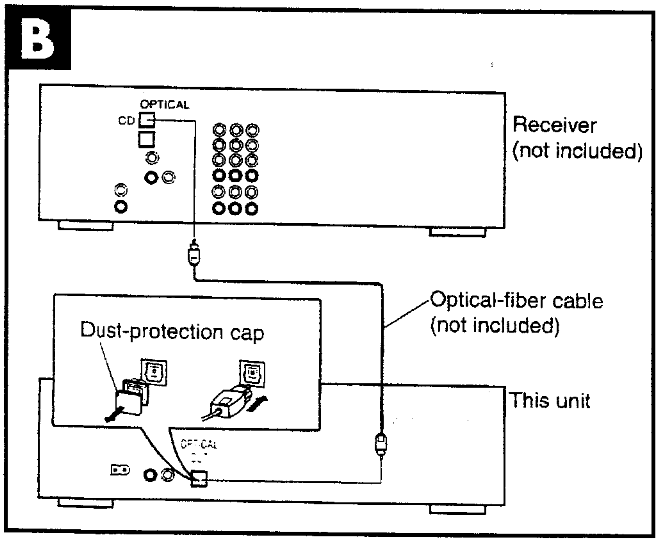


Figure B

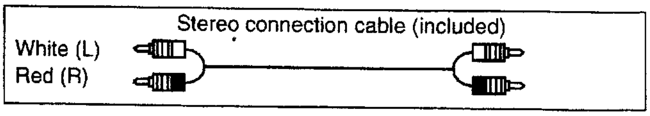


Connections


A
Amplifier or receiver (not included)
CD or AUX terminals
This unit
To household AC outlet
(AC 120 V, 60 Hz)


B
OPTICAL
CD
Receiver
(not included)
Optical-fiber cable
(not included)
Dust-protection cap
This unit
OPTICAL

Before making connections, be sure that the power of this unit and all other system components is first turned off. A


Stereo connection cable (included)
White (L)
Red (R)

Note

Although the figure shows the AC power supply cord being connected to a household AC outlet, if the amplifier (or receiver) is equipped with a AC outlet, connect the cord to that outlet.

Digital connection B

Remove the dust cap and connect this unit to other digital equipment with an optical fiber terminal, such as a receiver or digital surround processor.

- Leave the cap attached when this terminal is not being used.

For your reference

If you have DTS format CDs, you can enjoy six channel playback by connecting this unit to a receiver or digital surround processor that has a DTS decoder.

Note

Use only the optical fiber terminal when playing back DTS format discs. DTS signals can only be correctly output through the digital terminal. Connection through the stereo LINE OUT terminals will result in noise and could possibly damage your speakers.

- DTS is a trademark of Digital Theater Systems, L.P.

Cautions concerning the moving of this unit

CAUTION

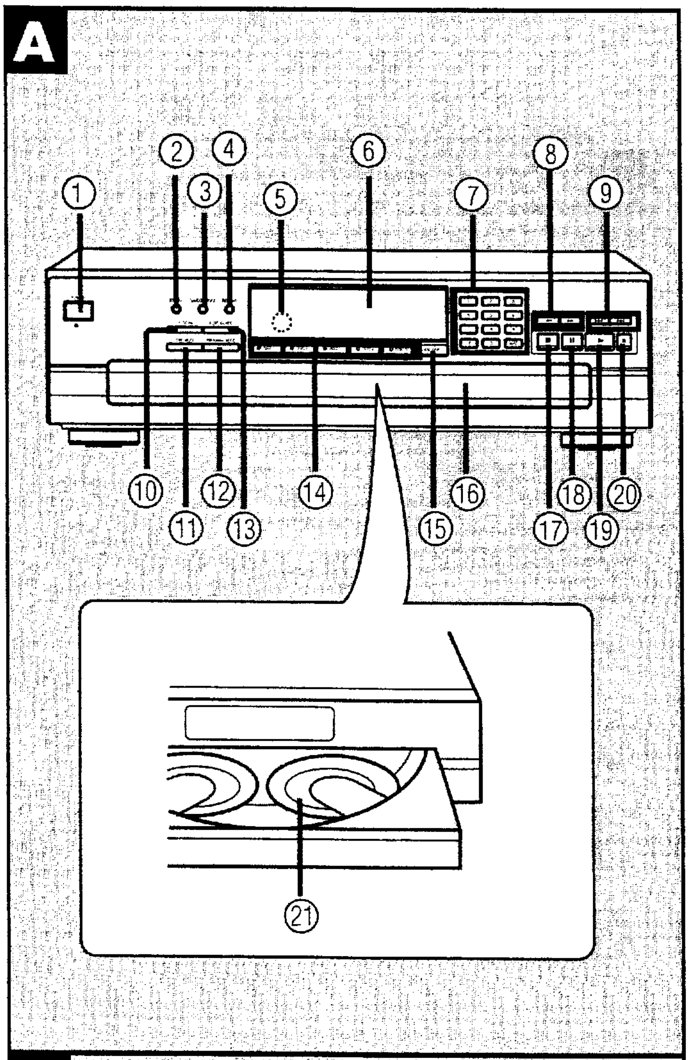
Before moving the changer to another location, be sure to carry out the "Preparation for moving the unit" described below.

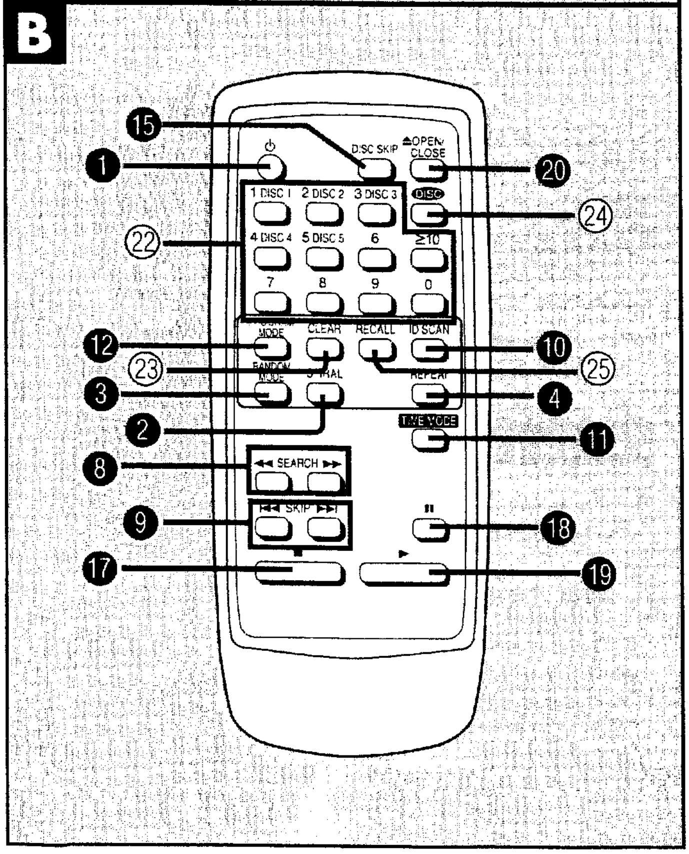
Failure to do so will expose the compact discs and changer to the risk of severe damage.

Preparation for moving the unit

1. Press POWER to switch off the unit.
2. Press POWER to switch on the unit.
   (If there is a disc in the play section, it will returned to the disc tray at this time.)
3. Press OPEN/CLOSE to open the loading drawer.
4. Press DISC SKIP to rotate the disc trays and remove the discs from all the trays.
5. Press OPEN/CLOSE to close the loading drawer.
6. Press POWER to switch off the unit.

If you have pressed a wrong button by mistake, return to step 1.


A
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉑


B
⓯
❶
DISC SKIP
⏏OPEN/CLOSE
⓴
DISC
㉔
1 DISC 1
2 DISC 2
3 DISC 3
4 DISC 4
5 DISC 5
6
≥10
7
8
9
0
㉒
⓬
CLEAR
RECALL
ID SCAN
❿
㉓
㉕
RANDOM MODE
SPIRAL
REPEAT
❸
❹
❷
TIME MODE
⓫
◀◀ SEARCH ▶▶
❽
|◀◀ SKIP ▶▶|
❾
⓲
⓱
⓳

Front panel controls

Main unit A

No. Name

① **Standby/on switch (⏻/I, POWER)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

② **Spiral button (SPIRAL)**

③ **Random mode button (RANDOM MODE)**

④ **Repeat button (REPEAT)**

⑤ **Remote control signal sensor**
This changer can be operated by using the remote control provided with a Technics receiver.
(This may not be possible with some models.)

⑥ **Display**

⑦ **Numeric buttons (1–10, 0, >10)**

⑧ **Search buttons (◀◀, ▶▶)**

⑨ **Skip buttons (|◀◀, ▶▶|)**

⑩ **ID scan button (ID SCAN)**

⑪ **Time mode button (TIME MODE)**

⑫ **Program mode button (PROGRAM MODE)**

⑬ **Edit guide button (EDIT GUIDE)**

⑭ **Disc buttons (DISC 1–DISC 5)**

⑮ **Disc skip button (DISC SKIP)**

⑯ **Loading drawer**

⑰ **Stop button (■)**

⑱ **Pause button (❙❙)**

⑲ **Play button (▶)**

⑳ **Loading drawer open/close button (⏏OPEN/CLOSE)**

㉑ **Disc trays (1–5)**

Remote control B

Buttons ❶, ❷, ❸, ❹, ❽, ❾, ❿, ⓫, ⓬, ⓯, ⓱, ⓲, ⓳ and ⓴ have the same functions as the corresponding buttons on the main unit.

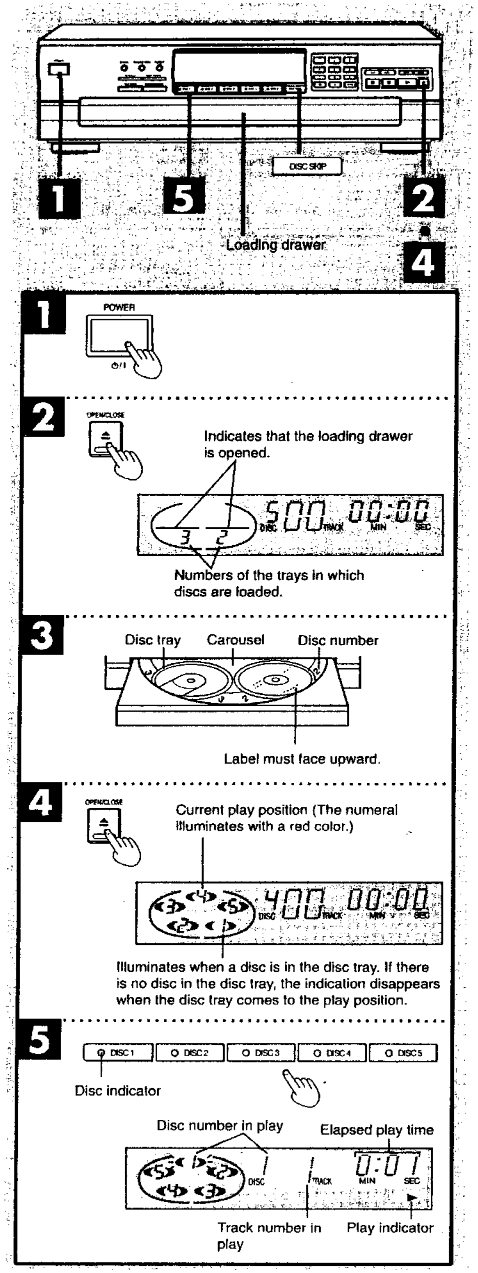
No. Name

㉒ **Numeric buttons**

㉓ **Clear button (CLEAR)**

㉔ **Disc button (DISC)**

㉕ **Recall button (RECALL)**


DISC SKIP
1
5
2
4
Loading drawer
1
POWER
2
OPEN/CLOSE
Indicates that the loading drawer is opened.
Numbers of the trays in which discs are loaded.
3
Disc tray
Carousel
Disc number
Label must face upward.
4
OPEN/CLOSE
Current play position (The numeral illuminates with a red color.)
Illuminates when a disc is in the disc tray. If there is no disc in the disc tray, the indication disappears when the disc tray comes to the play position.
5
DISC 1
DISC 2
DISC 3
DISC 4
DISC 5
Disc indicator
Disc number in play
Elapsed play time
Track number in play
Play indicator

Basic Operations

Sequential play

All of the discs will be played, beginning from track 1 on the selected disc.

The explanation below is an example of operation in the case where all five disc trays in the changer are holding CDs.

1 Press [⏻/I].
The unit will switch on.

2 Press [≜OPEN/CLOSE] to open the loading drawer.

3 Load the disc(s) on the disc tray(s).
The discs can be loaded two at a time by pressing [DISC SKIP] to rotate the carousel.

Note

- Do not load 3″(8 cm) and 5″(12 cm) discs on the same disc tray.
- Do not use irregular shape CDs.

CAUTION
Do not touch the loading drawer and carousel while they are in motion, and do not attempt to rotate the carousel by hand; doing so could result in incorrect operation of the unit and/or damage to the discs.

4 Press [≜OPEN/CLOSE] again to close the loading drawer.

Note

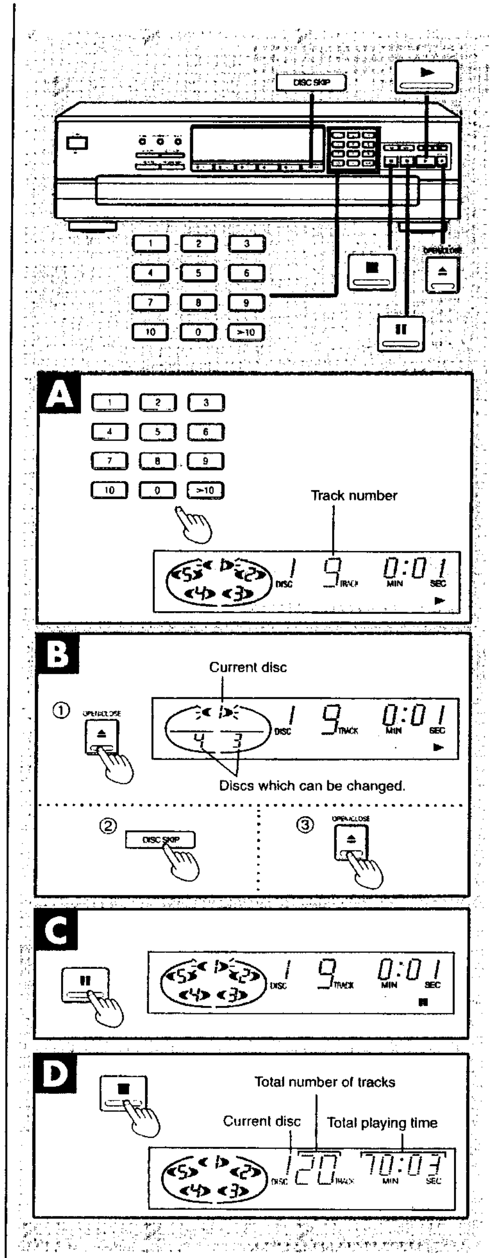
Do not attempt to close the drawer by hand.

5 Press the desired disc button ([DISC 1]–[DISC 5]).
Play will begin from the selected disc. If a disc is not on the selected disc tray, the changer plays the disc at the next number.

The disc indicator lights when there is a disc in the corresponding tray.

For remote control
Press [DISC] and then within 7 seconds or so, press [DISC 1]–[DISC 5] to select the disc you want.

The changer plays all the tracks on all the discs in order and stops automatically when the last track on the last disc finishes playing. The first disc will then be at the playing position.


DISC SKIP
OPEN/CLOSE
A
1
2
3
4
5
6
7
8
9
10
0
>10
Track number
B
①
Current disc
Discs which can be changed.
②
DISC SKIP
③
OPEN/CLOSE
C
D
Total number of tracks
Current disc
Total playing time
DISC
TRACK
MIN
SEC

Basic operations

To directly access a desired track A

Press the numeric button(s) to select the track.

To select a two-digit track number over 10
(or to select a two-digit track from the remote control)

Press [>10] ([≥10] on the remote control) and then the two numbers you want within 7 seconds or so.
For example
Track no. 20: [>10] ([≥10] on the remote control)
↓
[2]→[0]

To exchange discs during play B

While playing a disc, it is possible to change the other discs without interrupting play.

① **Press [≜OPEN/CLOSE] to open the loading drawer.**

② **Press [DISC SKIP] to rotate the disc trays and exchange the discs.**
The carousel will move by one disc tray. Pressing again moves the carousel in the opposite direction by two disc trays.

③ **Press [≜OPEN/CLOSE] to close the loading drawer.**

Note
If you play a disc with the loading drawer open, discs other than the current disc cannot be played.

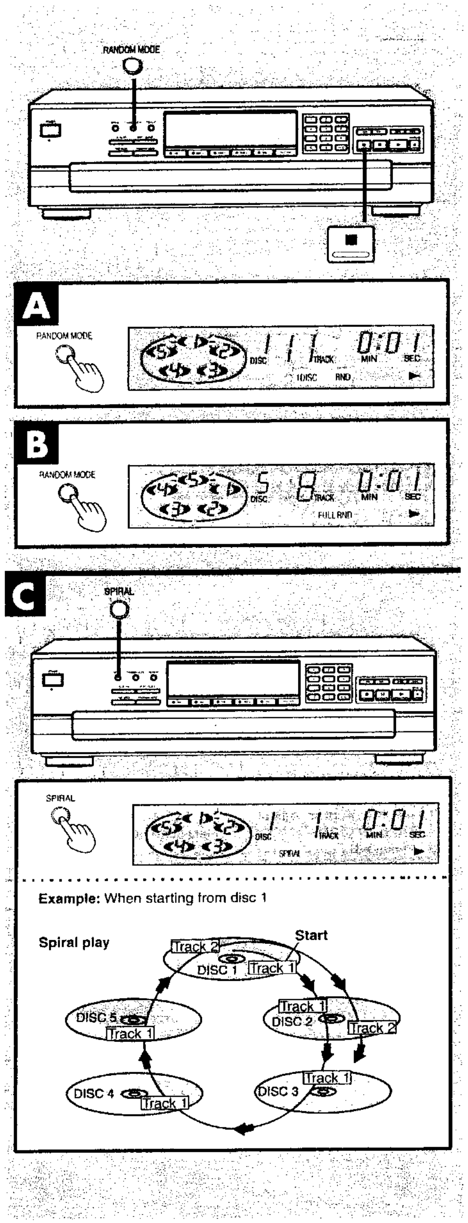
To temporarily stop play C
Press [II].
Press [▶] to resume play.

To stop play D
Press [■].
The display will show the total number of tracks and the total playing time of the current disc.

The total playing time displayed includes the silent sections between tracks. For this reason, it may be a few seconds longer than the playing time indicated on the disc.

Press [▶] to re-start play.

CAUTION
Do not move this changer with a compact disc inside the unit. If a disc comes off the disc tray, it might be scratched or the changer might become incapable of playing.
(Refer to "Cautions concerning the moving of this unit")



Example: When starting from disc 1

Random play

All of the tracks will be played one time each in random order. There are two types of random play as described below.

One disc random play A

The changer will play all tracks on the current disc in a random order. Then it will choose a new disc randomly, excluding the discs already played, and play all tracks on that disc in a random order.

In the stop or play mode
Press [RANDOM MODE] so that the "1 DISC RND" indicator illuminates.
Every time you press the button:
1 DISC RND → FULL RND → (off)

Full random play B

Each track to be played back is selected randomly from all of the tracks on all of the discs, excluding the tracks that have already been played.

In the stop or play mode
Press [RANDOM MODE] so that the "FULL RND" indicator illuminates.
Every time you press the button:
1 DISC RND → FULL RND → (off)

The changer will stop automatically when all the tracks on all discs have been played once.

To cancel random play mode
Press [■].
The "1 DISC (or FULL) RND" indicator will go out.

Spiral play C

The changer plays the first tracks on all the loaded discs in sequence, followed by the second tracks on all the discs, and so on.

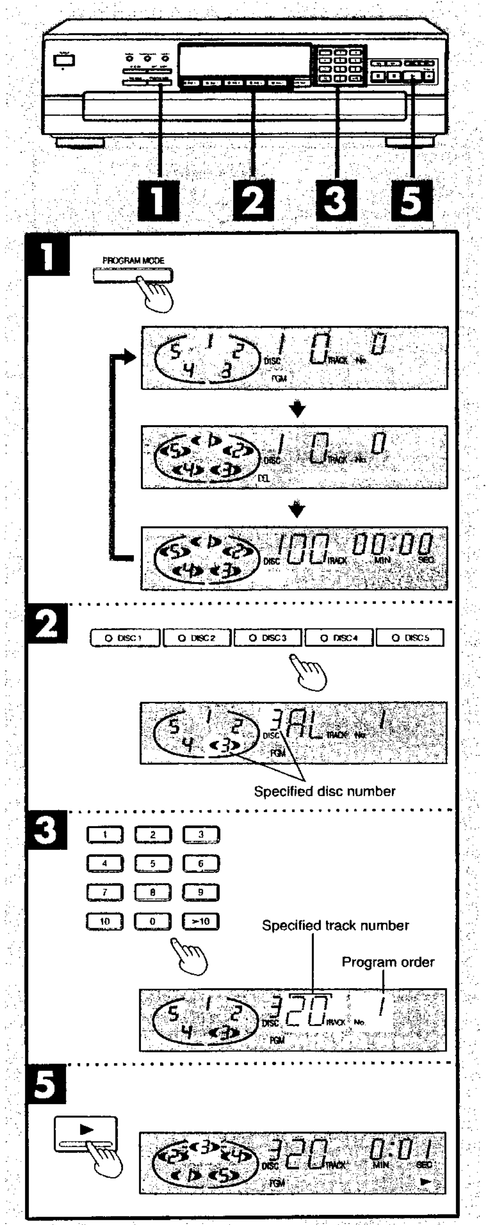
In the stop or play mode
Press [SPIRAL].
Spiral play will begin with the first track on the disc situated at the playing position.

The changer will stop automatically when all the tracks on all discs have been played once.

For your reference
When a disc with fewer tracks finishes playing, that disc will be skipped and the changer will continue playing the remaining track on the other discs in spiral sequence.

To cancel spiral play mode
Press [SPIRAL] again.
The "SPIRAL" indicator will go out.

The changer will return to sequential play mode from the current track on the current disc which is playing.



Program play

This unit has two program play modes; program(PGM) and delete(DEL).
Program mode allows you to select and play your favorite tracks in the order you want to hear them.
Delete mode allows you to program the unit not to play certain tracks. This mode can be used in combination with sequential and random play.
Up to 32 tracks can be selected for each mode.

1 While the unit is stopped
Select the mode with [PROGRAM MODE].
Every time you press the button:
PGM → DEL → (off)

2 **Press [DISC (1 to 5)] to select the required disc.**
"AL" appears on the display to indicate all the tracks on the disc are selected.
Repeat the above if you want to make selection by disc only.
The number of programmed items increases by one each time a [DISC] button is pressed.

3 **Press the numeric button(s) to select a track.**
To select a two-digit track number over 10
(or to select a two-digit track from the remote control)

Press [>10] ([≥10] on the remote control) and then the two numbers you want within 7 seconds or so.
For example
Track no. 20: [>10] ([≥10] on the remote control)
↓
[2] → [0]

4 **Repeat steps 2 and 3 to complete the selection.**
If non-existing disc or track number is entered, the selection is initially recorded but erased automatically during playback.
"-F" is displayed if you attempt to enter a 33rd item.

5 **Press [▶] to start play.**
Additional selections can be made during play by repeating steps 2 and 3.

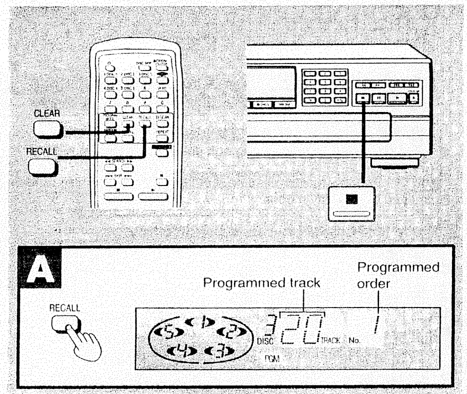
To use random play and delete mode together
After step 4, make your random play mode selection.

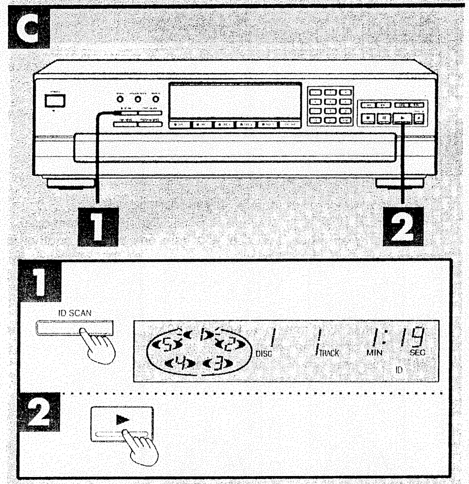
To cancel program play
While the unit is stopped
Press [PROGRAM MODE] to select "(off)" mode.

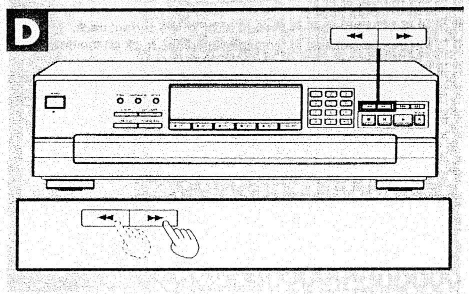
The contents of the program remain in the unit's memory even after the unit is turned off.

To use the program again
1. Press [PROGRAM MODE] to select the required mode.
2. Press [▶].

For your reference
The program remains in the memory for up to two weeks even if the unit is disconnected from its power source.







Program play

To confirm the selections A (Remote control only)

Press [RECALL].

Each time you press the button, the tracks and discs you programmed appear on the display in the order they were selected.

To cancel selections

While the unit is stopped

Press [■]. The entire program is cancelled.

To clear the last item in the program B (Remote control only)

Press [CLEAR].

To clear a specific item C

1. Press [RECALL] until the item is displayed.
2. Press [CLEAR].

ID scan function C

This function is convenient to use when searching for a desired track.

The function will search from the beginning of the track for a loud section, and will play 10 seconds of the track centering around that point.

The order of scanning is the same as for play mode.

1 Press [ID SCAN].

ID scan will start.

2 When the desired track has been found: Press [▶].

The changer will play the track from the beginning.

To cancel ID scan D

Press [ID SCAN].

The "ID" indicator will go out.

The changer will continue to play from the track being played.

Search function D

You can search rapidly forward or backward on the disc for specific sections.

In the play or pause mode

Press and hold [◀◀] or [▶▶].

[◀◀]: You can search backward.

[▶▶]: You can search forward.

Release the button when you reach the desired point.

The changer will return to the previous mode (play or pause).

In sequential play mode

You can search forward over discs and backward within the current disc.

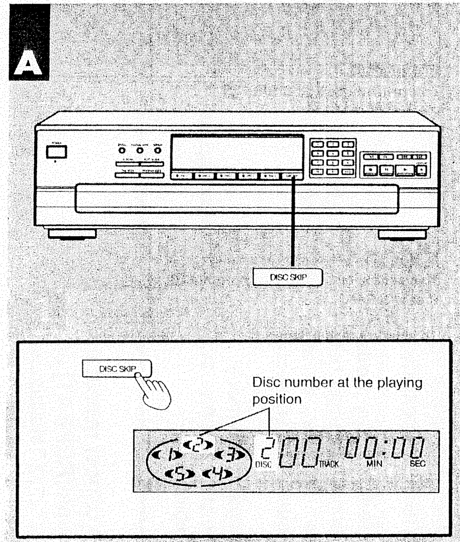
In other play modes

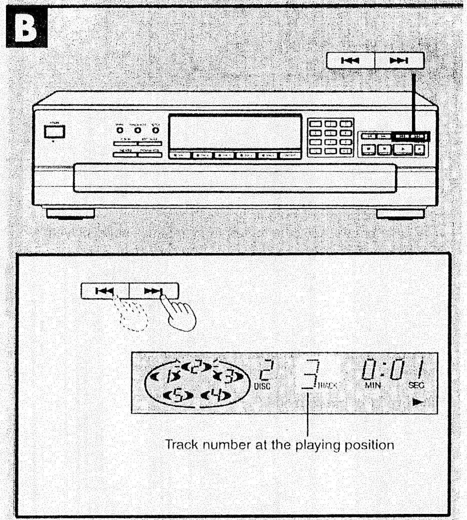
You can search forward or backward only within the current track.

For your reference

The search function will begin slowly, and then, if the button is held pressed for longer than 3 seconds, it will change to high-speed search.

Searching in the play mode will decrease the sound level by 12 dB (1/4).





Program play

To skip discs A

Use this function to skip discs when selecting a disc to which you wish to listen, and when loading and unloading the discs.

You can use this function in stop, sequential play, one disc random play and delete play modes.

Press [DISC SKIP] to rotate the disc tray.

In stop mode

When the loading drawer is closed, pressing [DISC SKIP] changes the disc tray to the next one.

When the loading drawer is open, pressing [DISC SKIP] moves the carousel by two discs trays.

In play mode

When the loading drawer is closed, pressing [DISC SKIP] changes the disc and the changer plays the track on the next disc.

If a disc is not on the selected disc tray, the changer plays the disc at the next number.

When the loading drawer is open, pressing [DISC SKIP] moves the carousel by one disc tray. Pressing again moves the carousel in the opposite direction so that you can change all discs except the one being played.

To skip tracks B

Use this function to skip tracks when selecting a track to which you wish to listen.

Press either [I◀◀] or [▶▶I] until you reach the desired track.

[I◀◀]: You can skip backward.

[▶▶I]: You can skip forward.

In sequential/program /delete play mode

In sequential play mode, you can skip only within the current disc.

In program play mode, you can skip from one track to another in the programmed sequence.

In delete play mode, you can skip tracks only within the current disc excluding the tracks to be deleted.

[I◀◀]: You can skip to the beginning of the track being played. If you press this button again quickly, you can skip to the beginning of the previous track.
Remember that in a backward skip, the current track is included in the count.

[▶▶I]: You can skip as many tracks as the number of times you press the button.

In random play mode

[I◀◀]: You can skip to the beginning of the current track.

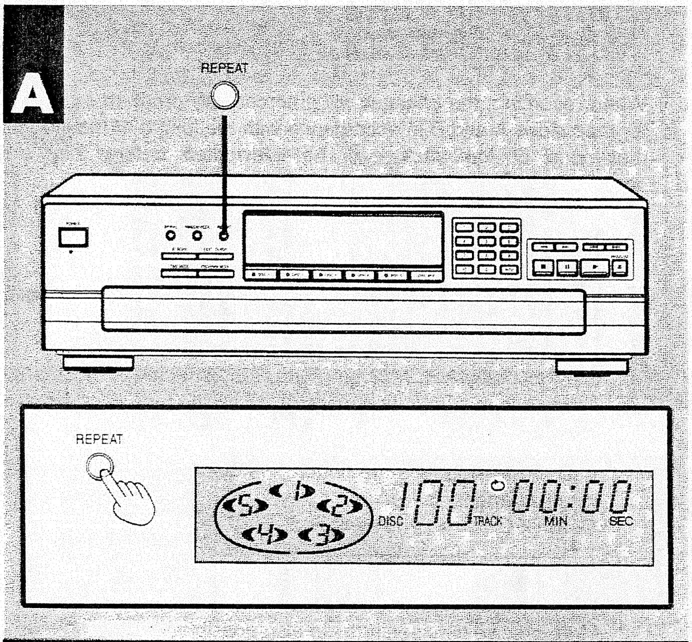
[▶▶I]: You can skip to the beginning of a next track in random order.

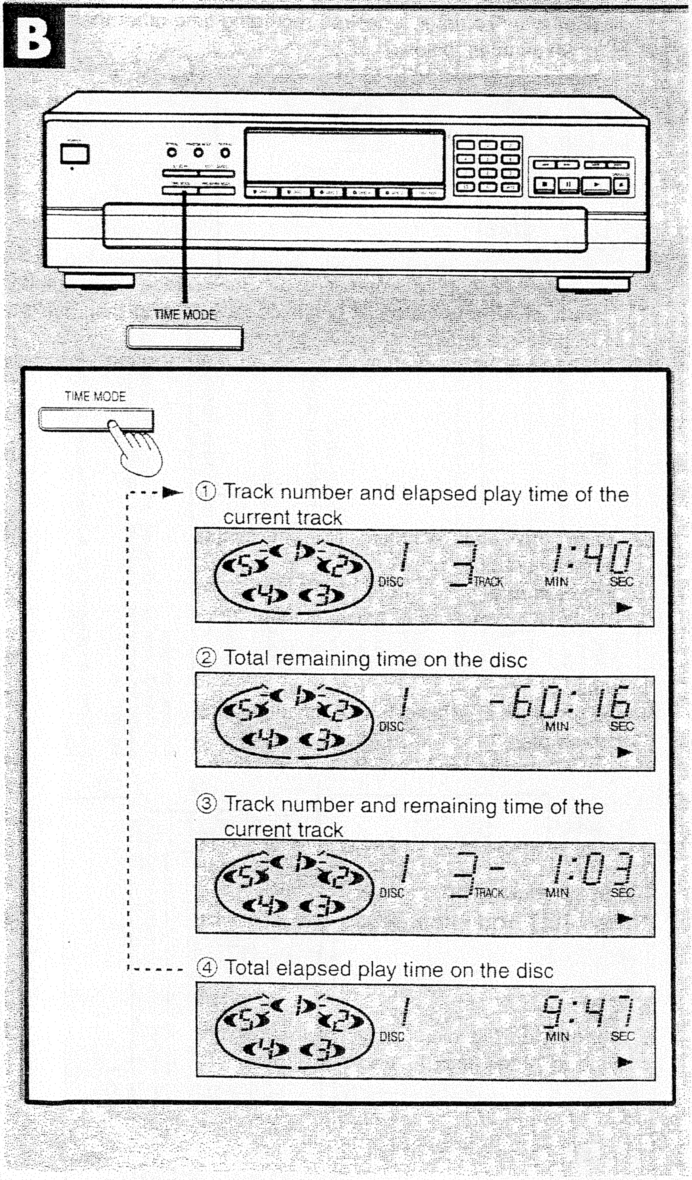
In spiral play mode

[I◀◀]: You can skip to the beginning of the current track.

[▶▶I]: You can skip to the beginning of the track on the next disc.

You can also skip tracks when the changer is in the stop mode (except during random play and spiral play) or pause mode.


A
REPEAT
REPEAT
100
DISC
TRACK
00:00
MIN
SEC


B
TIME MODE
TIME MODE
① Track number and elapsed play time of the current track
1 3 1:40
DISC TRACK MIN SEC
② Total remaining time on the disc
1 -60:16
DISC MIN SEC
③ Track number and remaining time of the current track
1 3- 1:03
DISC TRACK MIN SEC
④ Total elapsed play time on the disc
1 9:47
DISC MIN SEC

Repeat function A

Play will continue endlessly in accordance with the specific play mode selected.

Before or during play
Press [REPEAT].

In sequential play mode
All tracks of all discs will be played repeatedly.

In program play mode
The changer plays only the programmed selections in the programmed sequence repeatedly.

In delete play mode
The changer plays the discs and tracks excluding the selections to be deleted repeatedly.

In random play mode
When the changer has played all the tracks on all the loaded discs, it will select a new random sequence and play continuously. The sequence differs each time.

In spiral play mode
The changer plays all tracks of all discs repeatedly in the sequence of spiral play.

To cancel repeat mode
Press [REPEAT] again.
The "⟲" indicator will go out.

Time mode selection B

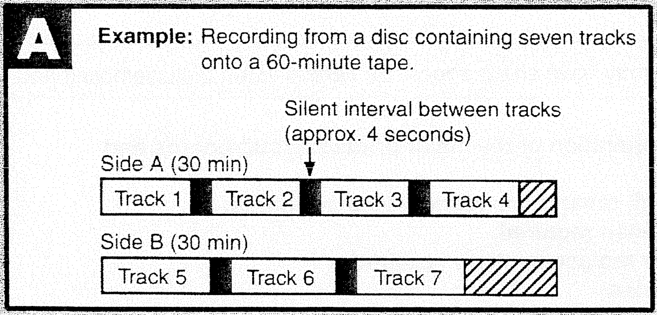
The various time information of the current disc can be displayed.

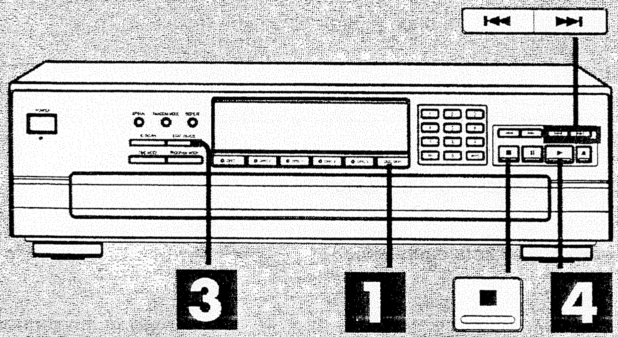
In the play or pause mode
Press [TIME MODE].
The display changes in the order shown in the diagram.

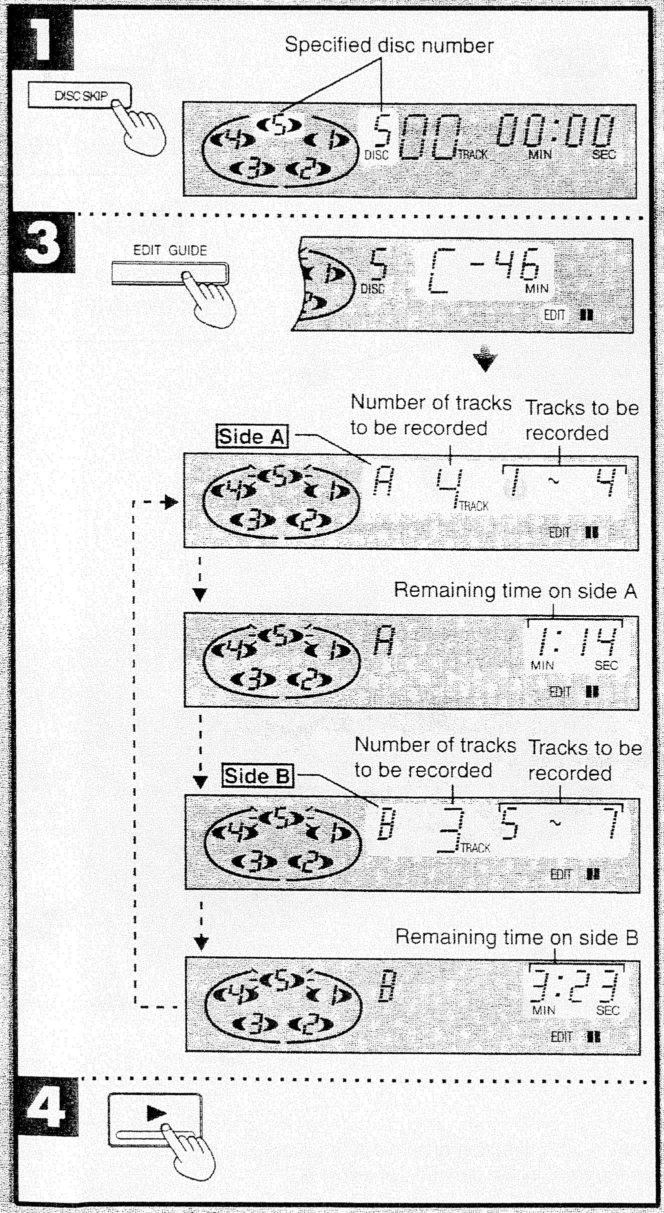
In all play modes
When track number 21 or greater is playing, display ③ shows "---:--".
① is displayed if play is stopped and then started again.

In program/delete/random/spiral mode
The displayed information will alternate between displays ① and ③ each time the button is pressed.

During operation of the edit guide function
The remaining play time on side A or side B will be shown in display ②, and the elapsed play time for side A or side B will be shown in display ④.


A
Example: Recording from a disc containing seven tracks onto a 60-minute tape.
Silent interval between tracks (approx. 4 seconds)
Side A (30 min)
Track 1
Track 2
Track 3
Track 4
Side B (30 min)
Track 5
Track 6
Track 7




1
Specified disc number
DISC SKIP
5 00 00:00
DISC TRACK MIN SEC
3
EDIT GUIDE
5 C-46
DISC MIN
EDIT
Side A
Number of tracks to be recorded
Tracks to be recorded
A 4 1 ~ 4
TRACK
EDIT
Remaining time on side A
A 1:14
MIN SEC
EDIT
Side B
Number of tracks to be recorded
Tracks to be recorded
B 3 5 ~ 7
TRACK
EDIT
Remaining time on side B
B 3:23
MIN SEC
EDIT
4

Edit Guide Function

When recording, the changer will automatically program the tracks for tape sides A and B in accordance with the length of the tape so that none of the tracks will be interrupted before they are completed.
In addition, the program will also include a silent interval of approximately 4 seconds between tracks. **A**

1 **Press [DISC SKIP] to select the disc to be recorded.**

2 **Prepare the tape deck for recording.**
Set the Dolby NR, reverse mode, recording level, etc., as instructed in the Operating Instructions for the tape deck.

Note
Prepare the tape so that recording is possible from its beginning.

3 **Press [EDIT GUIDE] to select the tape length.**
Each time you press the button, the display showing the tape length changes as follows.

C-46 → C-60 → C-90 → C---
↑_____________________________|

Choose the length of the tape you will use.

More precise time settings are also possible.
(Refer to "To enter a desired recording time other than 46, 60 or 90 minutes" below.)

The data of the tracks to be recorded is displayed as shown in the diagram .
In this example, disc 5 can be recorded with tracks 1-4 on side A and tracks 5-7 on side B of the cassette tape.

4 Start recording on the tape deck and then immediately:
Press [▶].
When the last track set for recording on side A is finished, the changer will enter the pause mode. Set the tape to the position from which recording will begin on side B, and then perform step 4 once again.

When all the programmed tracks on the specified disc finish playing, the changer will automatically stop. The edit guide mode will be cancelled at the same time.

To enter a desired recording time other than 46, 60 or 90 minutes

1. Select "C---" in step **3**.
2. Enter the total recording time in minutes (1-99) using the numeric buttons.
   For example
   To use 52-minute tape, press [5] then [2].

You can also specify the tape length by pressing [⏮] or [⏭] buttons.
Press either [⏮] or [⏭] from each step C-46, C-60, C-90 or C---.
For example
To use 52-minute tape, select C-46 and then press and hold [⏭] until the display shows "52".

The maximum allowable playing time for editing is 99 minutes.

To stop recording

Press [■] and then press the stop button on the tape deck.

Note
Depending on the disc, a little of the beginning of the next track may be recorded onto the end of the track.

Operation Checks

"ATTENTION SERVICER" Some chassis components may have sharp edges. Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.
4. For details disassembly, please refer to SL-PD687 series.

• Contents

page

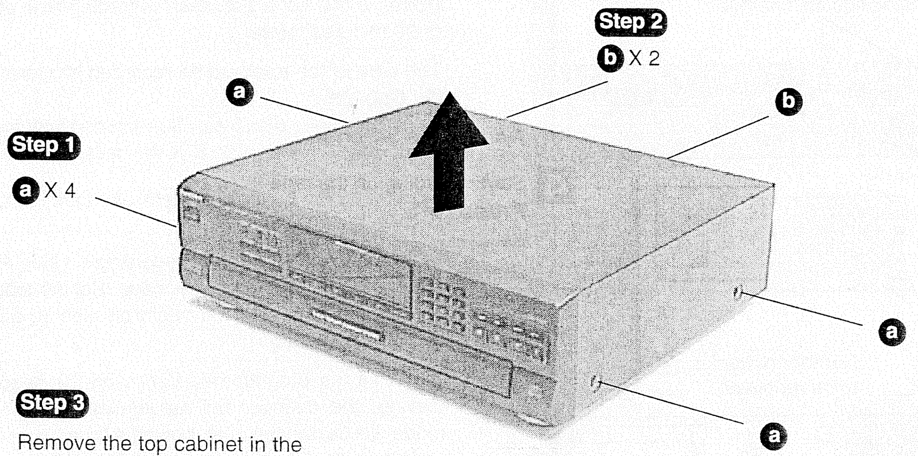
• Checking Procedure For Each Major P.C.B. .... 12 ~ 14

• Installation Of Tray Assembly 15

Warning : This product uses a laser diode. Refer to caution statement on page 3.

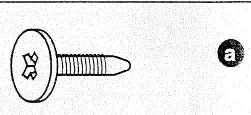
ACHTUNG :
- Die Lasereinheit nicht zerlegen.
- Die Lasereinheit darf nur gegen eine vom Hertsteller spezifizierte Einheit ausgetauscht werden.

Checking Procedure For Each Major P.C.B.

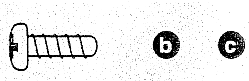


Step 3

Remove the top cabinet in the direction of arrow.



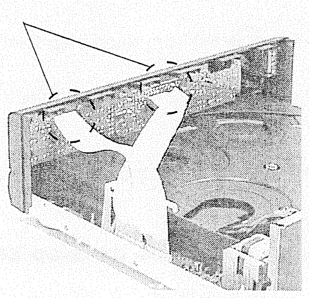
[SNE2129-3] (Black)

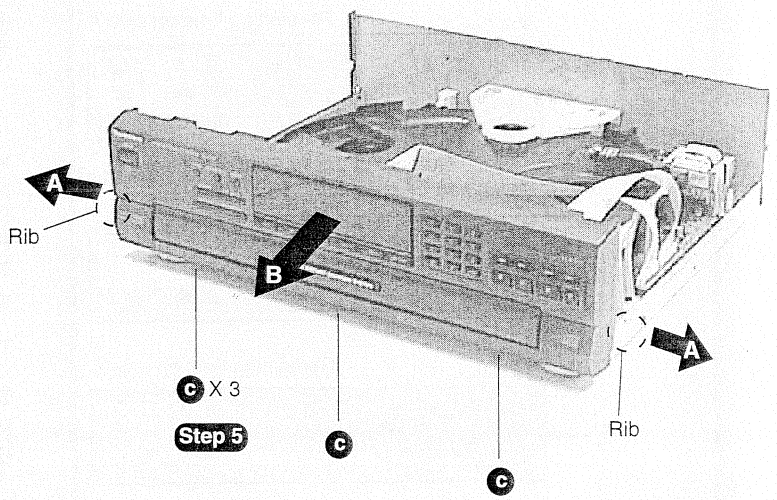


[XTBS3+8JFZ1] (Black)
[XTB3+8JFZ] (Black)

Step 4

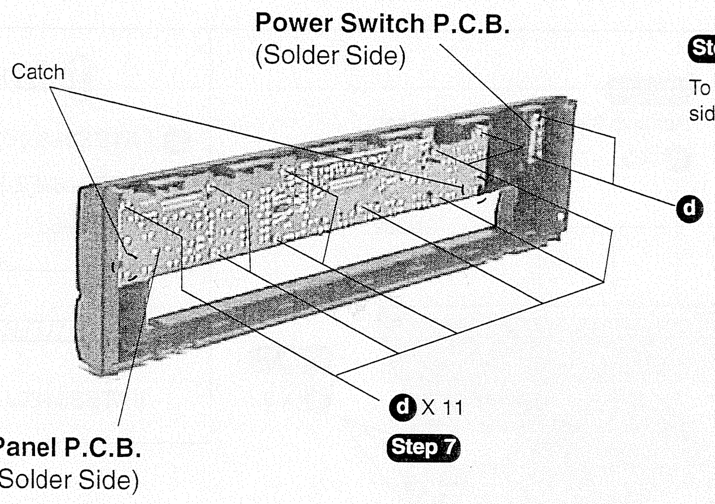
Pull both the FFC from the front panel connectors





Step 6

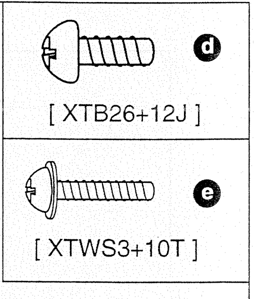
Pull the front panel in both direction of arrow **A** to unlock the rib and then remove the front in the direction of arrow **B**.


Power Switch P.C.B.
(Solder Side)
Catch
d
d X 11
Panel P.C.B.
(Solder Side)

Step 7

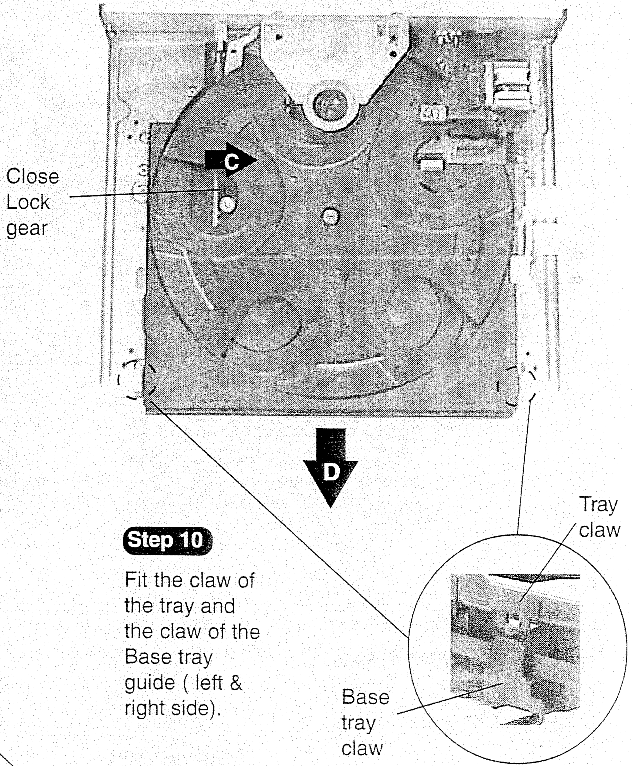
Step 8

To check Panel P.C.B component side release both catch.


d
[XTB26+12J]
e
[XTWS3+10T]

Step 9

Keep the close lock gear pressed in the direction of arrow **C** , and move the tray in the direction of arrow **D .**

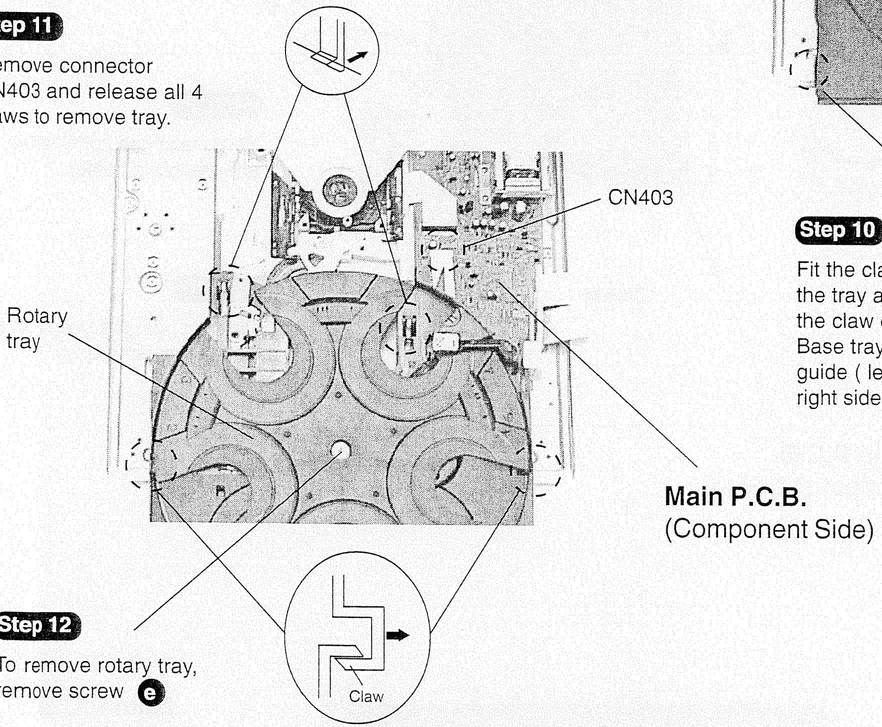

Close
Lock
gear
C
D
Tray
claw
Base
tray
claw

Step 10

Fit the claw of the tray and the claw of the Base tray guide (left & right side).

Step 11

Remove connector CN403 and release all 4 claws to remove tray.


CN403
Rotary
tray
Main P.C.B.
(Component Side)
Claw

Step 12

To remove rotary tray, remove screw e

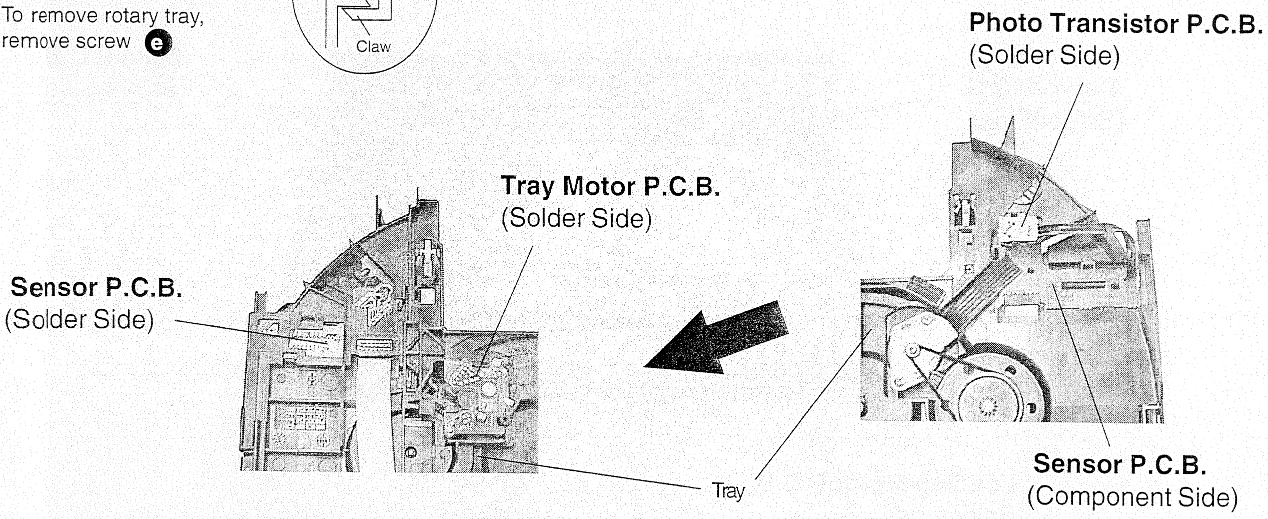


Photo Transistor P.C.B.
(Solder Side)
Tray Motor P.C.B.
(Solder Side)
Sensor P.C.B.
(Solder Side)
Tray
Sensor P.C.B.
(Component Side)

Step 13

c X 4

Step 14

Remove 3 screw from rear panel.

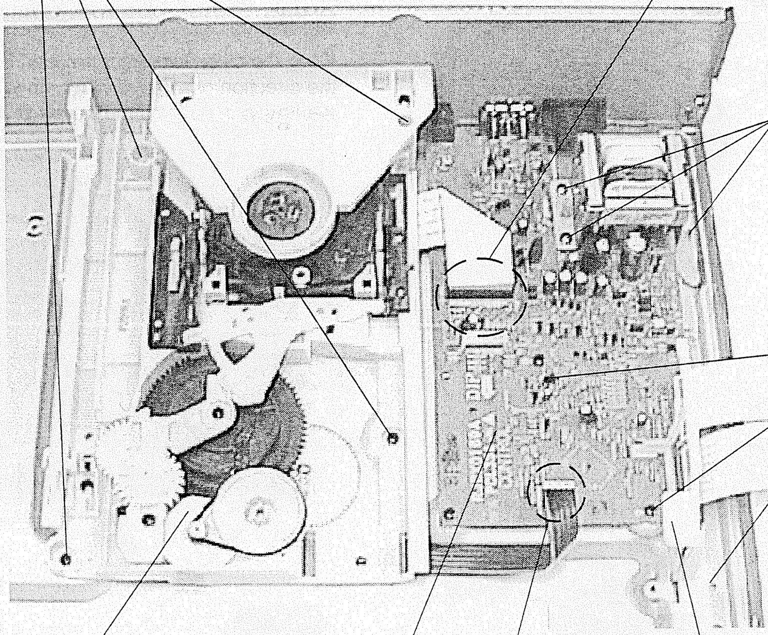
b X 3

Step 15

g X 3

Step 16

f X 4

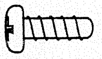

CN302
CN404
Mechanism A'ssy
Cable Holder
Main P.C.B.
(Component Side)

Step 17

Remove connector CN404, CN302 and the cable holder .

Step 18

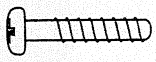
Flip over both the Main P.C.B. and the Mechanism a'ssy.



b [XTBS3+8JFZ1] (Black)

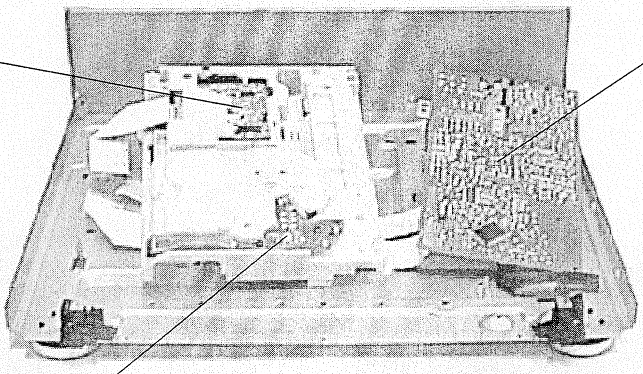
c [XTB3+8JFZ] (Black)

f [XTB3+8J]

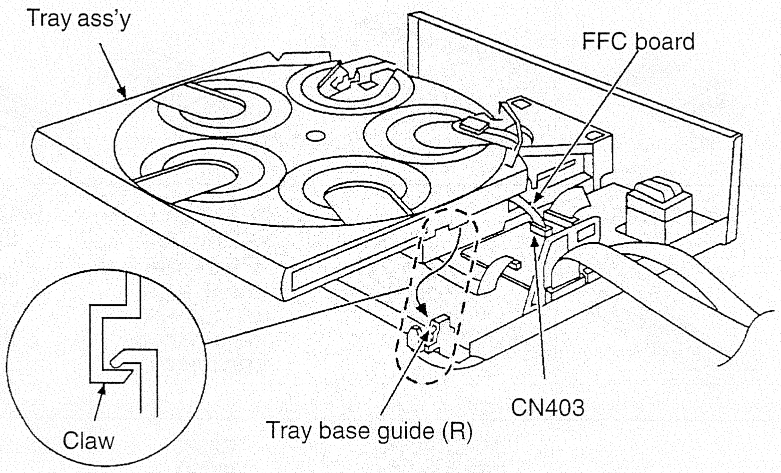


g

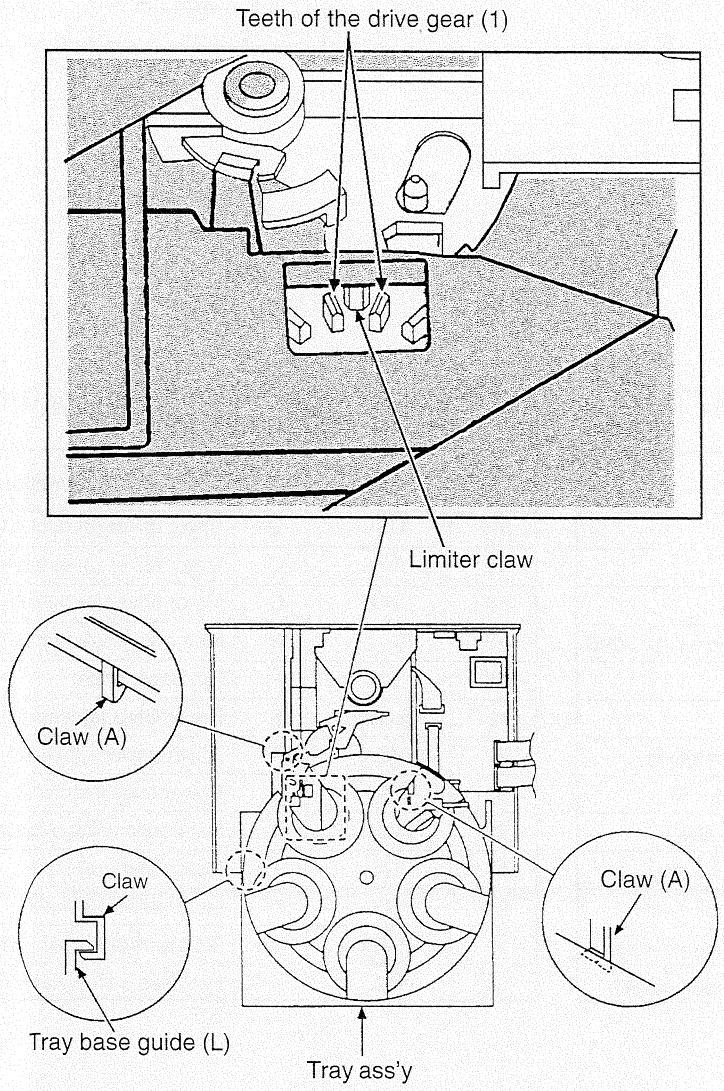
[XTBS3+20J]


Servo P.C.B.
(Solder Side)
Main P.C.B.
(Solder Side)
Loading Motor P.C.B.
(Solder Side)

Installation Of Tray Assembly.

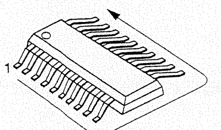
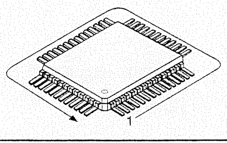
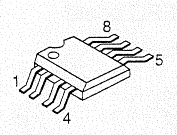
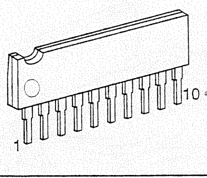
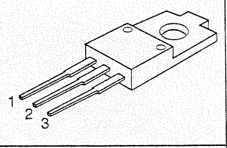
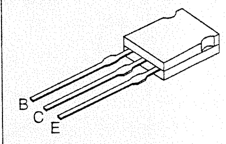
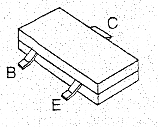
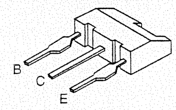
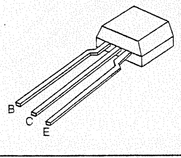
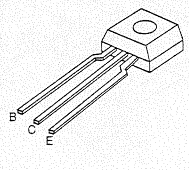
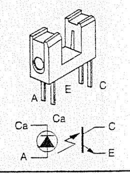
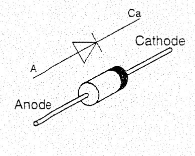
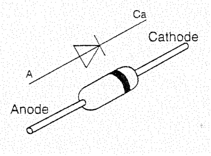
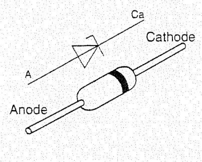
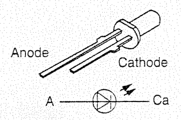
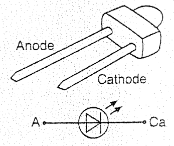

Tray ass'y
FFC board
Claw
Tray base guide (R)
CN403

1. Attach the FFC board to the connector (CN403).
2. Fit the claw on the right side of the tray ass'y underneath the claw on the tray base guide (R).


Teeth of the drive gear (1)
Limiter claw
Claw (A)
Claw
Tray base guide (L)
Tray ass'y
Claw (A)

3. Fit the claw on the left side of the tray ass'y underneath the claw on the tray base guide (L).
4. Fit the limiter claw on the tray ass'y between the teeth of the drive gear (1).
5. Catch both the claws (A) with the loading mechanism ass'y.
6. After installing the tray ass'y check that it moves smoothly.

Type Illustration of ICs, Transistors and Diodes

AN8837SBE1 (28p) AN8780NSBE2 (28p) NJU3713G(18p) 	UPD78044F139(80p) MN662741RPA (80p) 	BA4558FDXE2 	BA6247N 	BA05T 	2SD2037ETA 
DTC114YKA146 2SA1037AKSTX 	2SB1238QRTV2 2SD1859QRTV2 	2SD2144STA 		2SA1175FETA 2SC2785FETA KRA103MTA KRC103MTA KRA107MTA KRC107MTA KRC111MTA	RSQGP1S53V SG-206S 
RL1N4003N02 	1SS291TA RVD1SS133TA 		MTZJ27CTA MTZJ5R1BTA MTZJ5R6BTA MTZJ6R2CTA MTJZ6R8CTA MTJZ8R2CTA MTZJ9R1CTA	GL380 PT381 	LNJ301MPUJAD 

Terminal Function Of IC's

• IC703 (AN8780NSBE2) : Focus Coil / Tracking Coil / Traverse Motor / Spindle Motor Drive

Pin No.	Mark	I/O	Function
1	/RST	-	Not used, open
2	NC	-	Not used
3	IN2	I	Motor driver (2) input
4	PC2	I	Turntable motor drive signal ("L" : ON)
5	NC	-	Not used
6	IN1	I	Motor driver (1) input
7	PVcc1	I	Driver power supply terminal (1)
8	PGND1	-	Driver GND terminal (1)
9	NC	-	Not used, connected to GND
10	D1-	O	Motor driver (1) output terminal (-)
11	D1+	O	Motor driver (1) output terminal (+)
12	D2-	O	Motor driver (2) output terminal (-)
13	D2+	O	Motor driver (2) output terminal (+)
14	D3-	O	Motor driver (3) output terminal (-)
15	D3+	O	Motor driver (3) output terminal (+)
16	D4-	O	Motor driver (4) output terminal (-)
17	D4+	O	Motor driver (4) output terminal (+)
18	NC	-	Not used, open
19	PGND2	-	Driver GND terminal (2)
20	PVcc2	I	Driver power supply (2)
21	Vcc	I	Power supply terminal
22	VREF	I	Reference voltage input terminal
23	IN4	I	Motor driver (4) input
24	IN3	I	Motor driver (3) input
25	RSTIN	I	Reset terminal (Not used, connected to GND)
26	NC	-	Not used, connected to GND

• IC701 (AN8837SBE1) Servo Amplifier

Pin No.	Mark	I/O	Function
1	PDE	I	Tracking signal input terminal 1 (E ch)
2	PDF	I	Tracking signal input terminal 2 (F ch)
3	VCC	I	Power supply terminal
4	PDA	I	Focus signal input terminal 1 (A ch)
5	PDB	I	Focus signal input terminal 2 (B ch)
6	LPD	I	Laser PD signal
7	LD	O	Laser power auto control output
8	RF	O	RF amp terminal
9	RF IN	I	AGC input terminal
10	CSBRT	I	OFTR capacitor connection terminal
11	CEA	I	HPF-AMP capacitor connection terminal
12	BDO	O	Dropout detection control
13	LDON	I	LD APC ON/OFF (“H” : ON, “L” : OFF)
14	GND	-	GND terminal
15	/RFDET	O	RF det. signal output terminal (“L” : det.)
16	CROSS	O	Tracking error zero cross output
17	OFTR	O	Off track detection (“H” : det.)
18	VDET	O	Oscillation det. signal (“H” : det.)
19	ENV	O	Envelope signal output terminal
20	ENVOFF	I	Not used, connected to power supply
21	TEBPF	O	Oscillation detect input terminal
22	TEN	I	Tracking error signal
23	TEOUT	O	Tracking error signal
24	FEOUT	O	Focus error signal
25	FEN	I	Focusing error signal
26	VREF	O	Reference voltage output terminal
27	TBAL	I	Tracking balance adj. input
28	FBAL	I	Focus balance adj. input

• IC702 (MN662741RPA) Servo Processor / Digital Signal Processor / Digital Filter / D/A Converter

Pin No.	Mark	I/O	Function
1	BCLK	O	Serial bit clock output
2	LRCK	O	L/R discriminating signal output
3	SRDATA	O	Serial data
4	DVDD1	I	Power supply (digital circuit) terminal
5	DVss1	-	GND (digital circuit) terminal
6	TX	O	Digital audio interface signal
7	MCLK	I	Command clock signal
8	MDATA	I	Command data signal
9	MLD	I	Command load signal (“L” : LOAD)
10	SENSE	O	Sense signal output (OFT, FESL, NACEND, NAJEND, POSAD, SFG) (Not used, open)
11	/FLOCK	O	Optical servo condition (focus) (“L” : Lead-in) (Not used, open)
12	/TLOCK	O	Optical servo condition (tracking) (“L” : Lead-in) (Not used, open)
13	BLKCK	O	Sub-code block clock (f = 75Hz)
14	SQCK	I	Sub-code Q register clock
15	SUBQ	O	Sub-code Q data
16	DMUTE	-	Muting input ("H": Mute) (Not used, connected to GND)
17	STAT	O	Status signal (CRC, CUE, CLVS, TTSTOP, FCLV, SQCK)
18	/RST	I	Reset signal (“L” : reset)
19	SMCK	-	System clock (f = 4.2336 MHz) (Not used, open)
20	PMCK	-	Frequency division clock signal (f=$^{1}/_{192}$ Crystal OSC (16.9344MHz) = 88.2 KHz) (Not used, open)
21	TRV	O	Traverse servo control
22	TVD	O	Traverse drive signal
23	PC	O	Turntable motor drive signal (“L”: ON)
24	ECM	O	Turntable motor drive signal (Forced mode)
25	ECS	O	Turntable motor drive signal (Servo error signal)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive signal output
28	FOD	O	Focus drive signal output
29	VREF	I	D/A drive output (TVD, ECS, TRD, FOD, FBAL,TBAL) normal voltage input terminal
30	FBAL	O	Focus balance adjustment output
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal (analog input)
33	TE	I	Tracking error signal (analog input)
34	RFENV	I	RF envelope signal
35	VDET	I	Oscillation detection signal ("H" : detection)
36	OFTR	I	Off-track signal ("H": Off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal ("L": detection)
39	BDO	I	Dropout detection signal ("H": dropout)
40	LDON	O	Laser power control ("H": ON)
41	TES	O	Tracking error shunt output ("H": dropout)
42	PLAY	O	Play signal ("H": play) (Not used, open)
43	WVEL	O	Double velocity status signal ("H": Double) (Not used, open)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	DSL bias terminal (Not used, open)
47	DSLF	I/O	DSL loop filter terminal
48	PLLF	I/O	PLL loop filter terminal
49	VCOF	I/O	VCO loop filter terminal
50	AVDD2	I	Power supply (analog circuit) terminal 2

Pin No.	Mark	I/O	Function
51	AVss2	-	GND (analog circuit) terminal
52	EFM	O	EFM signal (Not used, open)
53	PCK	O	PLL extract clock (f=4.3218MHz) (Not used, open)
54	PDO	O	Phase compared signal of EFM and PCK (Not used,open)
55	SUBC	O	Sub-code serial output clock
56	SBCK	I	Sub-code serial input data
57	Vss	-	GND terminal
58	X1	I	Crystal oscillator terminal (f=16.9344MHz)
59	X2	O	Crystal oscillator terminal (f=16.9344MHz)
60	VDD	I	Power supply terminal
61	BYTCK	O	Byte clock signal (Not used. open)
62	/CLDCK	O	Sub-code frame clock signal (f = CLDCK = 7.35 kHz : Normal)
63	FCLK	O	Crystal frame clock (Not used, open)
64	IPFLAG	O	Interpolation flag terminal
65	FLAG	O	Flag terminal (Not used, open)
66	CLVS	O	Turntable servo phase synchro signal ("H": CLV, "L": Rough servo) (Not used, open)
67	CRC	O	Sub-code CRC check terminal ("H": OK, "L": NG) (Not used, open)
68	DEMPH	O	De-emphasis ON signal ("H" :ON) (Not used, open)
69	RESY	O	Re-synchoronizing signal of frame sync. (Not used, open)
70	/RST2	I	Reset terminal after "MASH" circuit (Not used, connected to GND)
71	/TEST	I	Test terminal (Normal : "H") (Not used, connected to power supply)
72	AVDD1	I	Power supply (analog circuit) terminal (1)
73	OUTL	O	Lch audio signal
74	AVss1	I	GND (analog circuit) terminal (1)
75	OUTR	O	Rch audio signal
76	RSEL	I	Polarity direction control terminal of RF signal (Not used, connected to power supply)
77	CSEL	I	Frequency control terminal of crystal oscillator (Not used, connected to GND)
78	SRDATA	I	Serial data input
79	LRCK	I	L ch / R ch clock signal input
80	BCLK	I	Audio bit clock input

• IC401 (UPD78044F139) Micro-processor

Pin No.	Mark	I/O	Function
1~7	G7 ~ G1	O	Grid signal of FL display
8	VDD	I	Power supply terminal
9	MCLK	O	Command clock signal
10	MDATA	O	Command data signal
11	MLD	O	Command Load signal ("L" LOAD)
12	SENSE	I	Sense signal
13	DMUTE	O	Muting control signal
14	SQCK	O	Sub-code Q register clock
15	NC	–	Not connected
16	SUBQ	O	Sub-code Q data
17	/RESET	I	Reset signal input
18	ZSENSE	–	Not used, connected to GND
19	REC.EN	I	Synchro. rec. control terminal
20	AVSS	–	GND terminal
21	/RSTSV	O	Reset signal output
22	OPEN	I	Open detect terminal
23	DIR	O	Motor control signal
24	TURN	O	Motor control signal
25	LOAD	O	Motor control signal
26	DAC	–	Not used, open
27	RESTSW	I	Reset position det.
28	UP/DOWN	I	Traverse deck up/down det. terminal
29	AVDD	I	Power supply terminal
30	AVREF	I	Power supply terminal
31	XT1	–	Not used, connected to GND
32	XT2	–	Not used, open
33	VSS	–	GND terminal
34	X1	I	Crystal Osc terminal (F : 4.2336MHz)
35	X2	O	Crystal Osc terminal (F: 4.2336 MHz)
36~42	KEYIN 7 ~ 1	I	Key return signal
43	PWM	O	Motor control signal
44	POFF	I	Power det. terminal
45	POSITION	I	Rotary tray position det. terminal
46	SPEED	I	Loading motor speed sensor signal
47	REMCON	I	Remote control signal input
48	IC	–	Not used, connected to GND
49	/TLOCK	I	Optical servo condition (tracking) input
50	/FLOCK	I	Optical servo condition (focus) input
51	STAT	I	Status signal (CRC, CUE, CLVS, TTSTOP, FCLV, SQCK)
52	VDD	I	Power supply terminal
53	POWER	O	Power ON/OFF output terminal
54	SYNCHRO	–	Not used, open
55~60	KEYOUT 6 ~ 1	O	Key scan signal
61~70	S16 ~ S7	O	Segment signal of FL display
71	VPP	I	Power supply terminal
72~77	S6 ~ S1	O	Segment signal of FL display
78	EXDATA	–	Not used, open
79	EXCLK	–	Not used, open
80	G8	O	Grid signal of FL display

Self-Diagnostic Display Function

Self-diagnostic display

This unit is equipped with a self-diagnostic display function which, if a problem occurs, will display an error code corresponding to the problem.
Use this function when performing maintenance on the unit.

Entering the Self-Diagnostic Mode

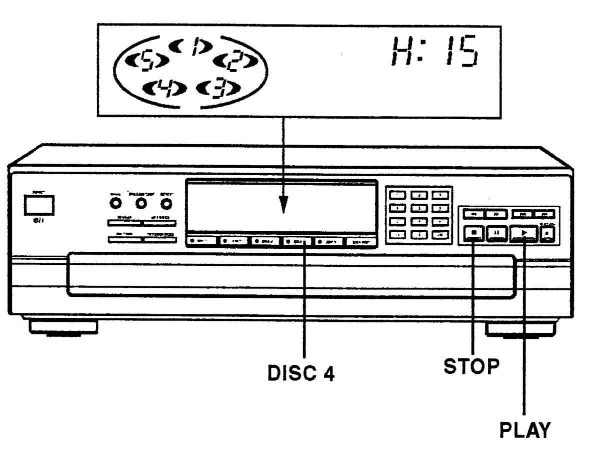
1. With no CD loaded in the tray, turn on the unit.
2. Unplug the power cord of the unit, and then plug it back in while pressing the STOP (■), PLAY (▶) and DISC 4 buttons together. This will bring up the FL display.
3. Release the above three buttons.

To Display Self-Diagnostic Results

1. When the FL display lights up, the unit automatically repeats an approximately 50-second cycle of the following operations.

START

a. Tray opens. --------- Ⓐ
b. Tray closes. -------------- Ⓑ
c. Traverse deck lifts.
d. Tray opens.
e. Tray closes. -------------- Ⓑ
f. Traverse deck lifts.
g. Rotary tray turns counter-clockwise two disc slots. --- Ⓒ
h. Traverse deck lifts once, and then lowers.
i. Rotary tray turns clockwise one disc slots. -------------- Ⓒ
j. Traverse deck lifts once, and then lowers.
k. Rotary tray turns clockwise three disc slots. ------------- Ⓒ
l. Traverse deck lifts once, and then lowers.
m. Rotary tray turns counter-clockwise one disc slots. --- Ⓒ
n. Traverse deck lifts once, and then lowers.
o. Rotary tray turns counter-clockwise two disc slots.
(*Repeats* from *a* - *o*).



2. Self-diagnostic fault results appear on the FL display for approximatelly one second as “H15” at location Ⓐ, “H16” at Ⓑ and “H18” at Ⓒ , during the above cycle.
3. If there are no faults as a results of self-diagnostic, “ 00 TRACK 00 : 00 “ appears on the FL display.

To Return to Normal Display

- Press the power button to off the unit , and then turn it on again.

To Display Self-Diagnostic Results Again

- Follow steps 1 through 3 of “Entering Self-Diagnostic Mode” above.

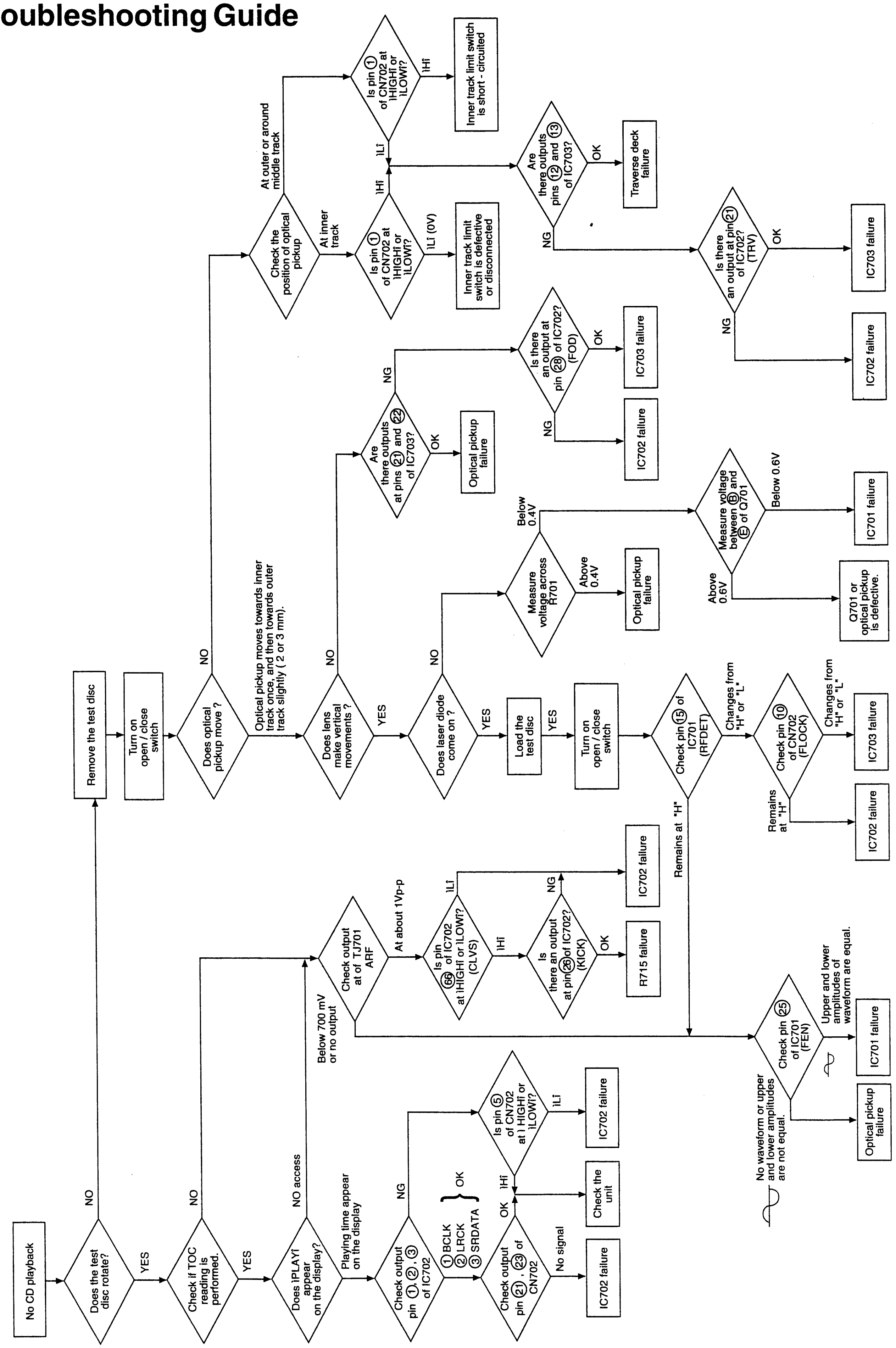
To Clear the Display of Self-Diagnostic Results

- Turn off the unit to clear the contents of the stored faults results.

Interpretation of error codes

Error code	Problem condition	Correction procedure
H15	CD tray does not open or close when CD tray open/close (▲) button is pressed. When the CD open/close (▲) button is pressed, the CD tray closes momentarily but then opens again, or opens momentarily and then closes again.	Faulty loading motor and motor drive IC (IC501), or faulty contact or short-circuit on open/close detect switch, S551. (Check and replace)
H16		
F18	Faulty rotary turret rotation detection. Example : The turret continues to turn at the initial position without stopping.	Check the optical sensor (D501) and replace if necessary.

■ Troubleshooting Guide


No CD playback
Does the test disc rotate?
YES
NO
Remove the test disc
Turn on open / close switch
Does optical pickup move ?
Optical pickup moves towards inner track once, and then towards outer track slightly (2 or 3 mm).
NO
Check the position of optical pickup
At outer or around middle track
Is pin ① of CN702 at ìHIGHî or ìLOWî?
ìHî
Inner track limit switch is short - circuited
ìLî
At inner track
Is pin ① of CN702 at ìHIGHî or ìLOWî?
ìLî (0V)
Inner track limit switch is defective or disconnected
ìHî
Are there outputs pins ⑫ and ⑬ of IC703?
OK
Traverse deck failure
NG
Is there an output at pin㉑ of IC702? (TRV)
OK
IC703 failure
NG
IC702 failure
Does lens make vertical movements ?
NO
Are there outputs at pins ㉑ and ㉒ of IC703?
OK
Optical pickup failure
NG
Is there an output at pin ㉘ of IC702? (FOD)
OK
IC703 failure
NG
IC702 failure
YES
Does laser diode come on ?
NO
Measure voltage across R701
Above 0.4V
Optical pickup failure
Below 0.4V
Measure voltage between Ⓑ and Ⓔ of Q701
Below 0.6V
IC701 failure
Above 0.6V
Q701 or optical pickup is defective.
YES
Load the test disc
YES
Turn on open / close switch
Check pin ⑮ of IC701 (RFDET)
Changes from "H" or "L"
Check pin ⑩ of CN702 (FLOCK)
Changes from "H" or "L"
IC703 failure
Remains at "H"
IC702 failure
Remains at "H"
Check pin ㉕ of IC701 (FEN)
Upper and lower amplitudes of waveform are equal.
IC701 failure
No waveform or upper and lower amplitudes are not equal.
Optical pickup failure
YES
Check if TOC reading is performed.
NO
Check output at of TJ701 ARF
At about 1Vp-p
Is pin ㊱ of IC702 at ìHIGHî or ìLOWî? (CLVS)
ìLî
IC702 failure
ìHî
Is there an output at pin㉖of IC702? (KICK)
NG
OK
R715 failure
Below 700 mV or no output
YES
Does ìPLAYî appear on the display?
NO access
Playing time appear on the display
Check output pin ①, ②, ③ of IC702
① BCLK
② LRCK
③ SRDATA
OK
NG
Is pin ⑤ of CN702 at ì HIGHî or ìLOWî?
ìLî
IC702 failure
ìHî
Check the unit
Check output pin ㉑ , ㉓ of CN702
OK
No signal
IC702 failure

Schematic Diagram

Page
A **SERVO CIRCUIT** .... 22 ~ 23
B **MAIN CIRCUIT** .... 24 ~ 25
C **PANEL CIRCUIT** 26
D **POWER SWITCH CIRCUIT** 26

Page
E **SENSOR CIRCUIT** 26
F **TRAY MOTOR CIRCUIT** 26
G **PHOTO TRANSISTOR CIRCUIT** 26
H **LOADING MOTOR CIRCUIT** 26

(All schematic diagrams may be modified at any time with the development of new technology)
Note :

- S551 : Open/close detect switch
- S601 : SPIRAL switch
- S602 : RANDOM MODE switch
- S603 : REPEAT switch
- S604 : ID SCAN switch
- S605 : EDIT GUIDE switch
- S606 : TIME MODE switch
- S607 : PROGRAM MODE switch
- S608 : DISC 1 select switch
- S609 : DISC 2 select switch
- S610 : DISC 3 select switch
- S611 : DISC 4 select switch
- S612 : DISC 5 select switch
- S613 : DISC SKIP switch
- S614 : Numeric 1 switch
- S615 : Numeric 2 switch
- S616 : Numeric 3 switch
- S617 : Numeric 4 switch
- S618 : Numeric 5 switch
- S619 : Numeric 6 switch
- S620 : Numeric 7 switch
- S621 : Numeric 8 switch
- S622 : Numeric 9 switch
- S623 : Numeric 10 switch
- S624 : Numeric 0 switch
- S625 : Numeric >10 switch
- S626 : REV search switch
- S627 : FWD search switch
- S628 : REV Skip switch
- S629 : FWD Skip switch
- S630 : STOP switch
- S631 : PAUSE switch
- S632 : PLAY switch
- S633 : Loading drawer OPEN/CLOSE switch
- S701 : Rest switch
- S901 : Power On/Standby switch

- **Signal line**

——— : +B Line

- - - - : - B Line

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
  Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

( ) : CD Playback

No Mark : CD stop

⇨ : CD Signal Line

- **Importance safety notice:**
  Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

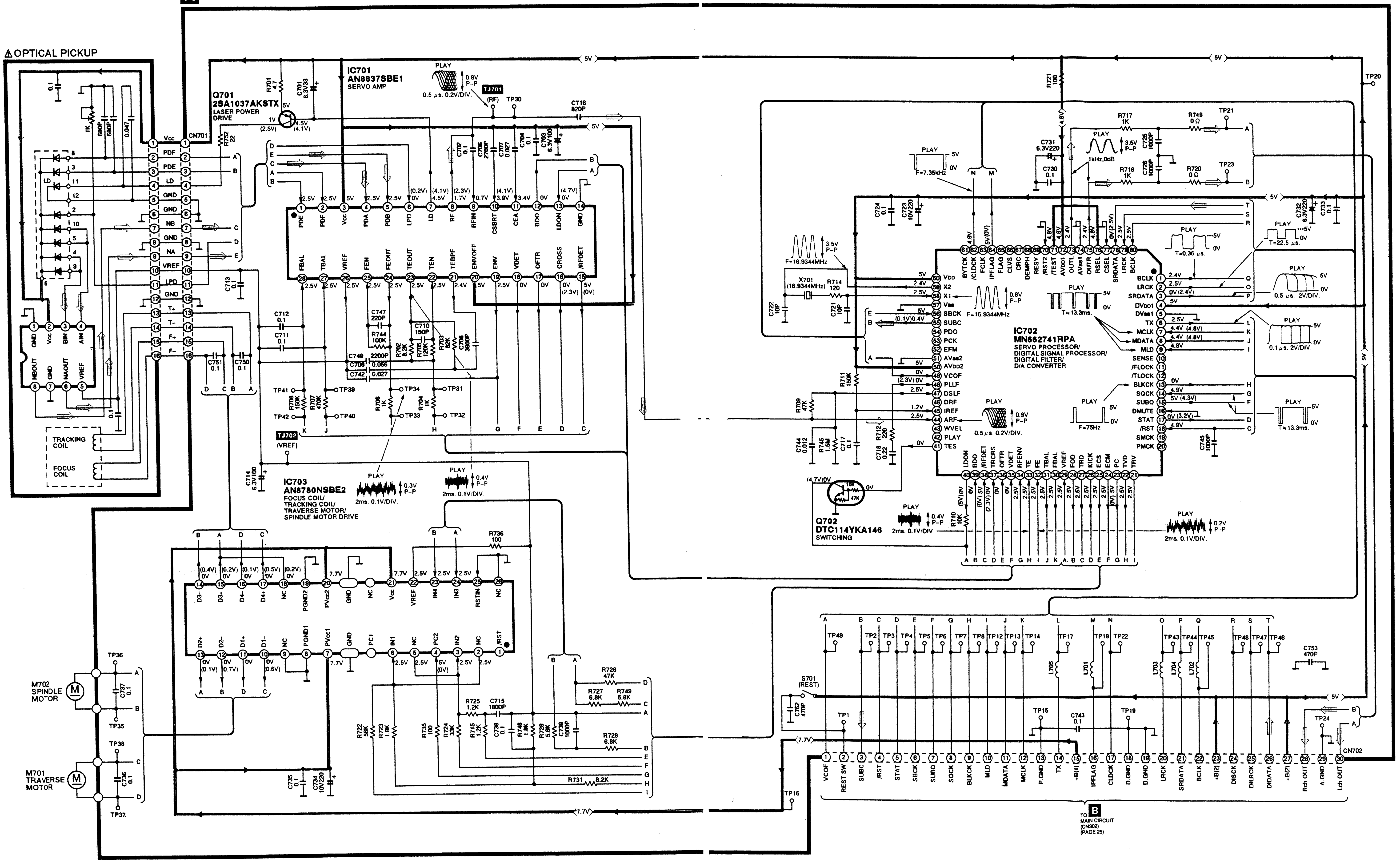
Caution !
IC, LSI and VLSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminium foil.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.
- Put a conductive mat on the work table.

━━ : + B Line ⇨ : CD signal line

━━ : + B Line ⇨ : CD signal line

A CD SERVO CIRCUIT (P.C.Board on page 28)

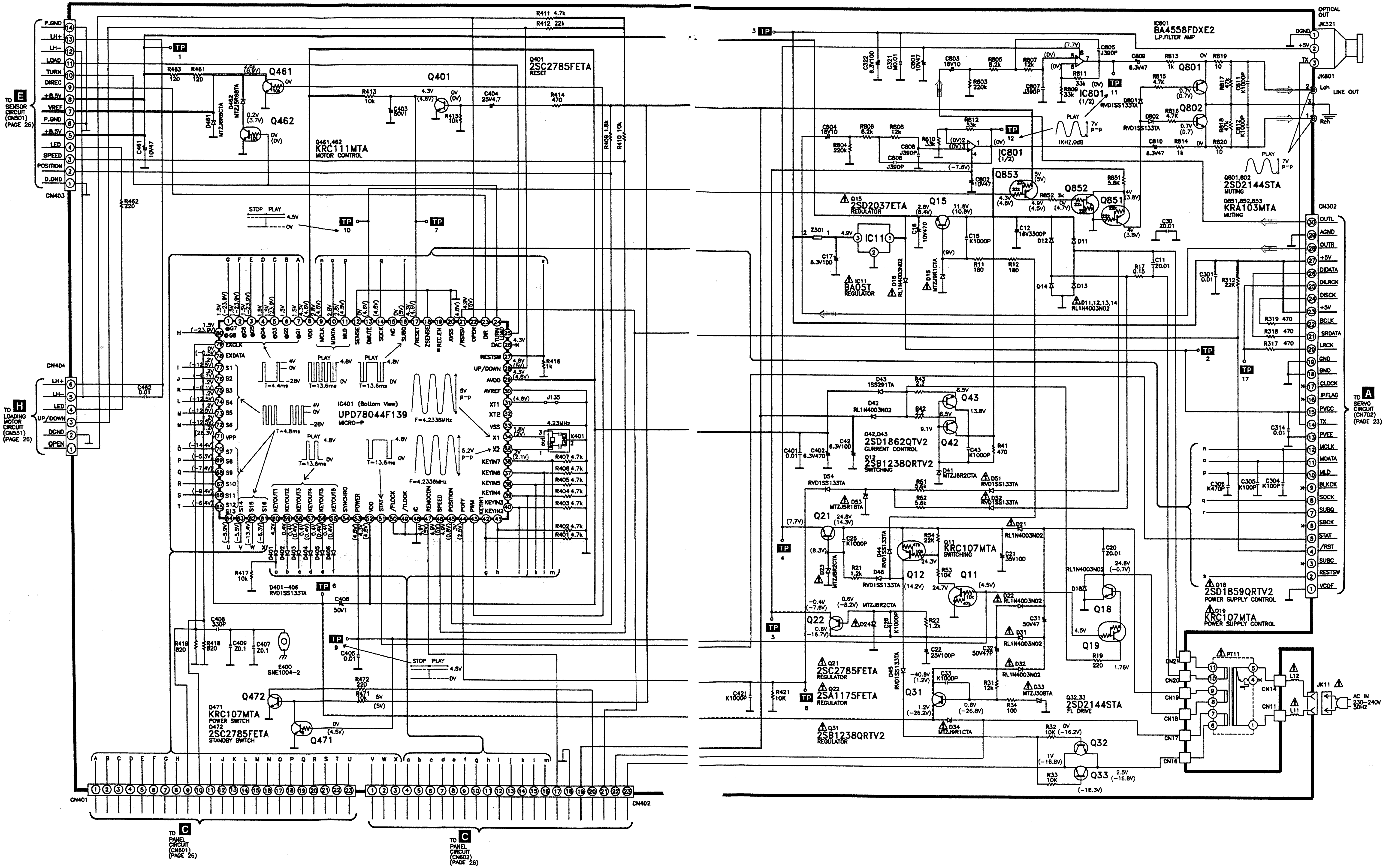

⚠OPTICAL PICKUP
LD
TRACKING COIL
FOCUS COIL
CN701
Vcc
PDF
PDE
LD
GND
NB
NA
VREF
LPD
T+
T-
F+
F-
Q701
2SA1037AKSTX
LASER POWER DRIVE
R701 4.7
C701 6.3V33
R752 22
IC701
AN8837SBE1
SERVO AMP
PLAY
0.9V P-P
0.5 μs. 0.2V/DIV.
TJ701
(RF)
TP30
C716 820P
PDE
PDF
Vcc
PDA
PDB
LPD
LD
RF
RFIN
CSBRT
CEA
BDO
LDON
GND
FBAL
TBAL
VREF
FEN
FEOUT
TEOUT
TEN
TEBPF
ENVOFF
ENV
VDET
OFTR
CROSS
/RFDET
C747 220P
R744 100K
C710 150P
C749 2200P
C708 0.056
C742 0.027
C712 0.1
C711 0.1
C713 0.1
C751 0.1
C750 0.1
TP41
TP42
TP39
TP40
TP34
TP33
TP31
TP32
TJ702
(VREF)
C714 6.3V100
IC703
AN6780NSBE2
FOCUS COIL/
TRACKING COIL/
TRAVERSE MOTOR/
SPINDLE MOTOR DRIVE
PLAY
0.3V P-P
2ms. 0.1V/DIV.
PLAY
0.4V P-P
2ms. 0.1V/DIV.
D3-
D3+
D4-
D4+
NC
PGND2
PVcc2
GND
Vcc
VREF
IN4
IN3
RSTIN
D2+
D2-
D1+
D1-
PGND1
PVcc1
PC1
IN1
PC2
IN2
/RST
R736 100
R726 47K
R727 6.8K
R749 6.8K
R728 6.8K
R725 1.2K
C715 1800P
R722 56K
R723 1.8K
R735 100
R724 33K
R715 1.2K
C738 0.1
R748 1.8K
R729 5.6K
C739 1000P
R731 8.2K
C735 0.1
C734 10V220
TP36
TP35
TP38
TP37
M702 SPINDLE MOTOR
M701 TRAVERSE MOTOR
C737 0.1
C736 0.1
5V
7.7V
R721 100
TP20
TP21
TP23
R717 1K
R718 1K
R749 0Ω
R720 0Ω
C731 6.3V220
C730 0.1
C725 1000P
C726 1000P
PLAY
3.5V P-P
1kHz,0dB
PLAY
F=7.35kHz
C724 0.1
C723 10V220
C732 6.3V220
C733 0.1
PLAY
T=0.36 μs.
T=22.5 μs.
3.5V P-P
F=16.9344MHz
X701 (16.9344MHz)
R714 120
C722 10P
C721 10P
0.8V P-P
F=16.9344MHz
PLAY
T≒13.3ms.
IC702
MN662741RPA
SERVO PROCESSOR/
DIGITAL SIGNAL PROCESSOR/
DIGITAL FILTER/
D/A CONVERTER
BYTCK
/CLDCK
FCLK
IPFLAG
FLAG
CLVS
CRC
DEMPH
RESY
/RST2
/TEST
AVDD1
OUTL
AVss1
OUTR
RSEL
CSEL
SRDATA
LRCK
BCLK
VDD
X2
X1
Vss
SBCK
SUBC
PDO
PCK
EFM
AVss2
AVDD2
VCOF
PLLF
DSLF
DRF
IREF
ARF
WVEL
PLAY
TES
SRDATA
DVDD1
DVss1
TX
MCLK
MDATA
MLD
SENSE
/FLOCK
/TLOCK
BLKCK
SQCK
SUBQ
DMUTE
STAT
/RST
SMCK
PMCK
LDON
BDO
/RFDET
TRCRS
OFTR
VDET
RFENV
TE
FE
FBAL
TBAL
VREF
FOD
TRD
KICK
ECS
ECM
PC
TVD
TRV
R711 150K
R709 47K
R712 220
C744 0.012
R745 1.5M
C717 0.1
C718 0.22
C745 1000P
PLAY
0.9V P-P
0.5 μs. 0.2V/DIV.
PLAY
F=75Hz
PLAY
0.5 μs. 2V/DIV.
0.1 μs. 2V/DIV.
T≒13.3ms.
Q702
DTC114YKA146
SWITCHING
10K
47K
R710 10K
PLAY
0.4V P-P
2ms. 0.1V/DIV.
PLAY
0.2V P-P
2ms. 0.1V/DIV.
TP49
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP12
TP13
TP14
TP17
TP18
TP22
TP43
TP44
TP45
TP48
TP47
TP46
L705
L701
L703
L704
L702
C753 470P
S701 (REST)
C752 470P
TP1
TP15
C743 0.1
TP19
TP24
TP16
CN702
VCOF
REST SW
SUBC
/RST
STAT
SBCK
SUBQ
SQCK
BLKCK
MLD
MDATA
MCLK
P.GND
TX
+B(1)
IPFLAG
CLDCK
D.GND
D.GND
LRCK
SRDATA
BCLK
+B(2)
DISCK
DILRCK
DIDATA
+B(2)
Rch OUT
A.GND
Lch OUT
TO B MAIN CIRCUIT (CN302) (PAGE 25)

B MAIN CIRCUIT

(P.C.BOARD ON PAGE 27)

——— : +B line ------ : −B line

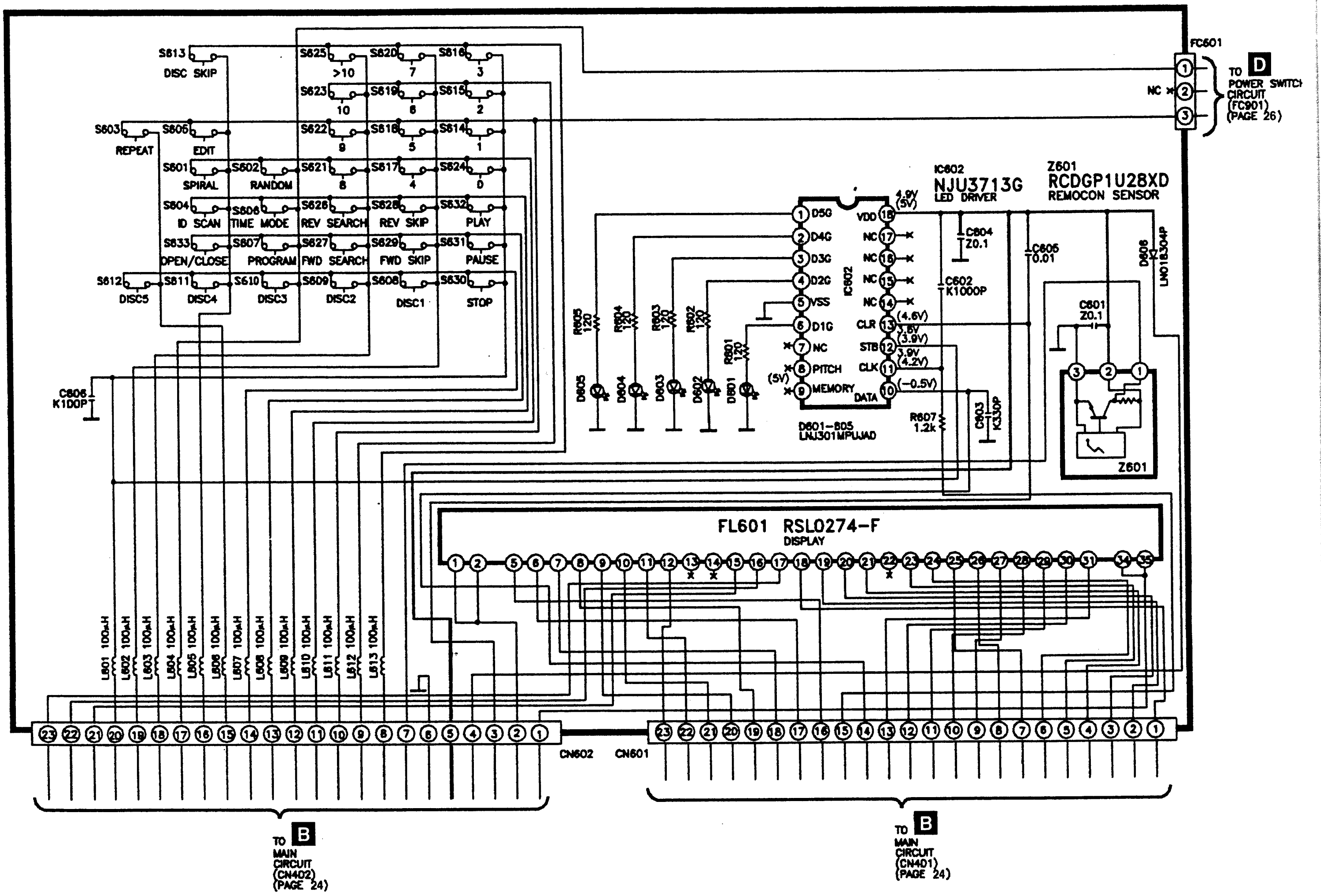
——— : +B line ------ : −B line ⇨ : CD signal line


TO E SENSOR CIRCUIT (CN501) (PAGE 26)
CN403
P.GND
LH+
LH−
LOAD
TURN
DIREC
+8.5V
VREF
+8.5V
LED
SPEED
POSITION
D.GND
TO H LOADING MOTOR CIRCUIT (CN551) (PAGE 26)
CN404
UP/DOWN
DGND
OPEN
Q461
Q462
Q401
Q461,462 KRC111MTA MOTOR CONTROL
Q401 2SC2785FETA RESET
IC401 (Bottom View) UPD78044F139 MICRO-P
X401
4.23MHz
F=4.2336MHz
T=4.4ms
T=13.6ms
T=4.8ms
STOP PLAY
D401–406 RVD1SS133TA
E400 SNE1004-2
Q471 KRC107MTA POWER SWITCH
Q472 2SC2785FETA STANDBY SWITCH
Q472
Q471
CN401
CN402
TO C PANEL CIRCUIT (CN501) (PAGE 26)
TO C PANEL CIRCUIT (CN502) (PAGE 26)
IC801 BA4558FDXE2 L.P.FILTER AMP
OPTICAL OUT
JK321
JK801
LINE OUT
Lch
Rch
Q801
Q802
Q801,802 2SD2144STA MUTING
Q851,852,853 KRA103MTA MUTING
Q853
Q852
Q851
1KHZ,0dB
PLAY 7V p-p
Q15 2SD2037ETA REGULATOR
IC11 BA05T REGULATOR
D11,12,13,14 RL1N4003N02
CN302
TO A SERVO CIRCUIT (CN702) (PAGE 23)
OUTL
AGND
OUTR
+5V
DIDATA
DILRCK
DISCK
+5V
BCLK
SRDATA
LRCK
GND
GND
CLDCK
IPFLAG
PVCC
TX
PVEE
MCLK
MDATA
MLD
BLKCK
SQCK
SUBQ
SBCK
STAT
/RST
SUBC
RESTSW
VCOF
Q42,Q43 2SD1862QTV2 CURRENT CONTROL
Q12 2SB1238QRTV2 SWITCHING
Q43
Q42
Q21
Q11 KRC107MTA SWITCHING
Q12
Q11
Q22
Q18
Q19
Q18 2SD1859QRTV2 POWER SUPPLY CONTROL
Q19 KRC107MTA POWER SUPPLY CONTROL
Q21 2SC2785FETA REGULATOR
Q22 2SA1175FETA REGULATOR
Q31 2SB1238QRTV2 REGULATOR
Q32,33 2SD2144STA FL DRIVE
Q31
Q32
Q33
PT11
JK11
AC IN 230–240V 50HZ
L11
L12
CN11
CN14
CN16
CN17
CN18
CN19
CN20
CN21

——: +B line

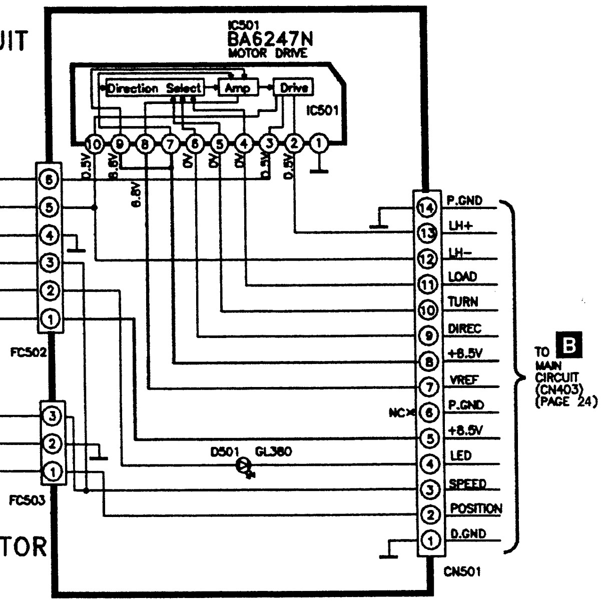
C PANEL CIRCUIT

(P.C.BOARD ON PAGE 28)


S613 DISC SKIP
S625 >10
S620 7
S616 3
S623 10
S619 6
S615 2
S603 REPEAT
S605 EDIT
S622 9
S618 5
S614 1
S601 SPIRAL
S602 RANDOM
S621 8
S617 4
S624 0
S604 ID SCAN
S606 TIME MODE
S626 REV SEARCH
S628 REV SKIP
S632 PLAY
S633 OPEN/CLOSE
S607 PROGRAM
S627 FWD SEARCH
S629 FWD SKIP
S631 PAUSE
S612 DISC5
S611 DISC4
S610 DISC3
S609 DISC2
S608 DISC1
S630 STOP
C606 K100P
FC601
TO D POWER SWITCH CIRCUIT (FC901) (PAGE 26)
NC
IC602 NJU3713G LED DRIVER
Z601 RCDGP1U28XD REMOCON SENSOR
D5G D4G D3G D2G VSS D1G NC PITCH MEMORY
VDD NC NC NC NC CLR STB CLK DATA
4.9V (5V)
(4.6V) 3.6V (3.9V) 3.9V (4.2V) (-0.5V)
(5V)
C604 Z0.1
C605 0.01
C602 K1000P
C601 Z0.1
D606 LN01S304P
R605 120 R604 120 R603 120 R602 120 R601 120
D605 D604 D603 D602 D601
D601-605 LNJ301MPUJAD
R607 1.2k
C603 K330P
FL601 RSL0274-F DISPLAY
L601 100μH L602 100μH L603 100μH L604 100μH L605 100μH L606 100μH L607 100μH L608 100μH L609 100μH L610 100μH L611 100μH L612 100μH L613 100μH
CN602 CN601
TO B MAIN CIRCUIT (CN402) (PAGE 24)
TO B MAIN CIRCUIT (CN401) (PAGE 24)

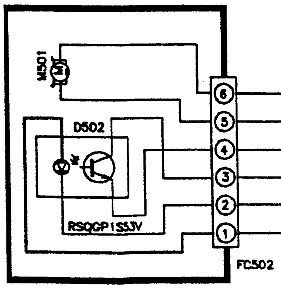
E SENSOR CIRCUIT

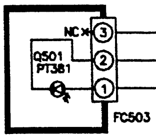
(P.C.BOARD ON PAGE 29)


IC501 BA6247N MOTOR DRIVE
Direction Select
Amp
Drive
IC501
0.5V 6.8V 6.8V 0V 0V 0V 0.5V 0.5V
FC502 FC503
D501 GL380
NC
P.GND
LH+
LH-
LOAD
TURN
DIREC
+8.5V
VREF
P.GND
+8.5V
LED
SPEED
POSITION
D.GND
CN501
TO B MAIN CIRCUIT (CN403) (PAGE 24)

F TRAYMOTOR CIRCUIT

(P.C.BOARD ON PAGE 28)


M501
D502
RSQGP1S53V
FC502

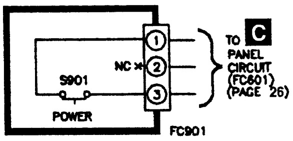

NC
Q501 PT381
FC503

G PHOTO TRANSISTOR CIRCUIT

(P.C.BOARD ON PAGE 29)

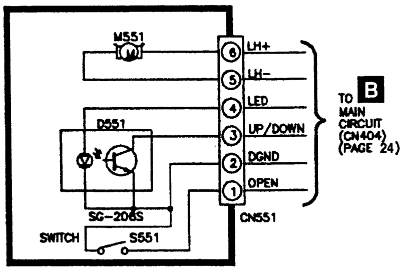
D POWER SWITCH CIRCUIT

(P.C.BOARD ON PAGE 29)


S901 POWER
NC
FC901
TO C PANEL CIRCUIT (FC601) (PAGE 26)

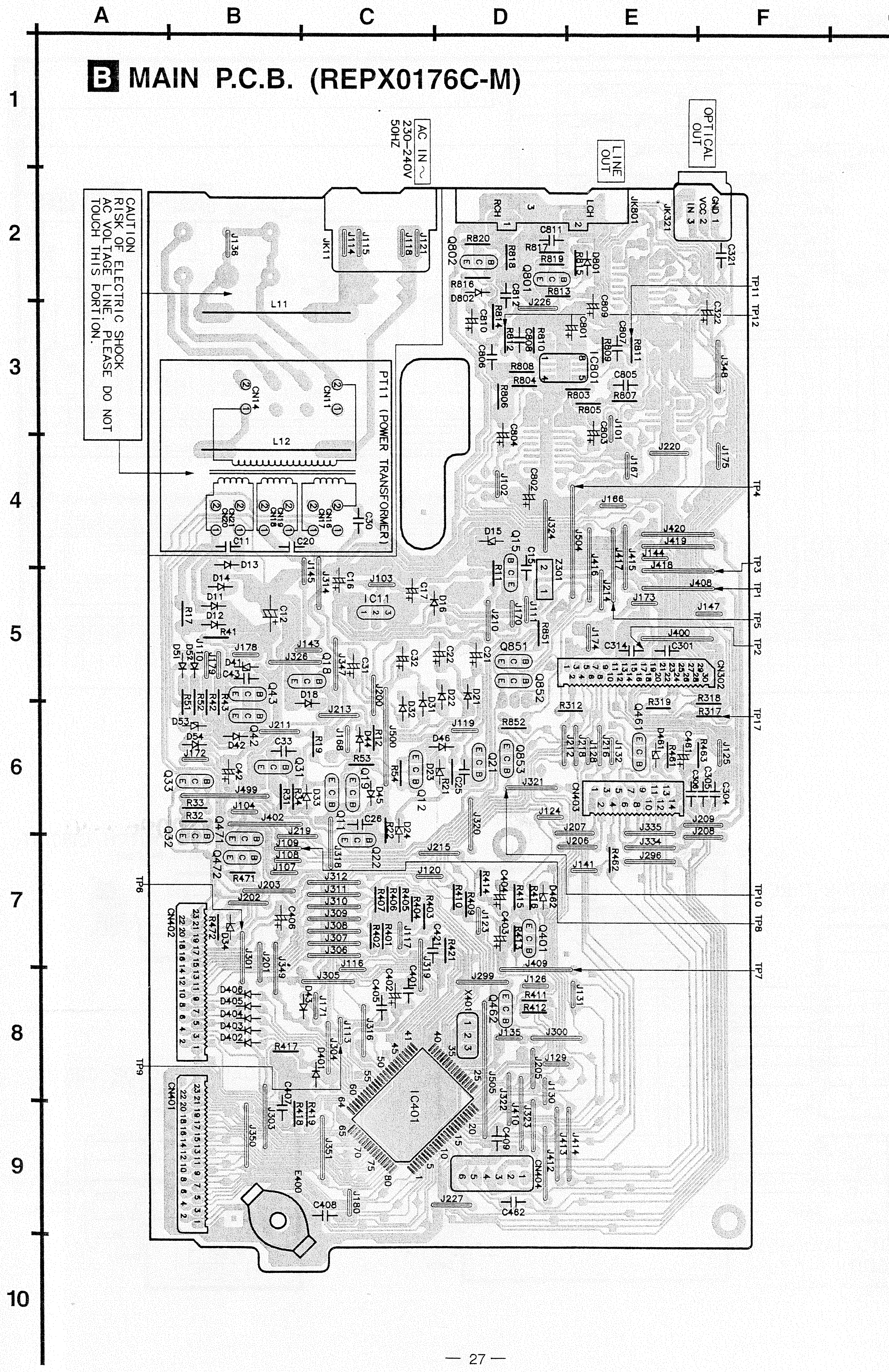
H LOADING MOTOR CIRCUIT

(P.C.BOARD ON PAGE 29)


M551
D551
SG-206S
SWITCH S551
LH+
LH-
LED
UP/DOWN
DGND
OPEN
CN551
TO B MAIN CIRCUIT (CN404) (PAGE 24)

Printed Circuit Board (This printed circuit board diagram may be modified at any time with the developement of new technology.)

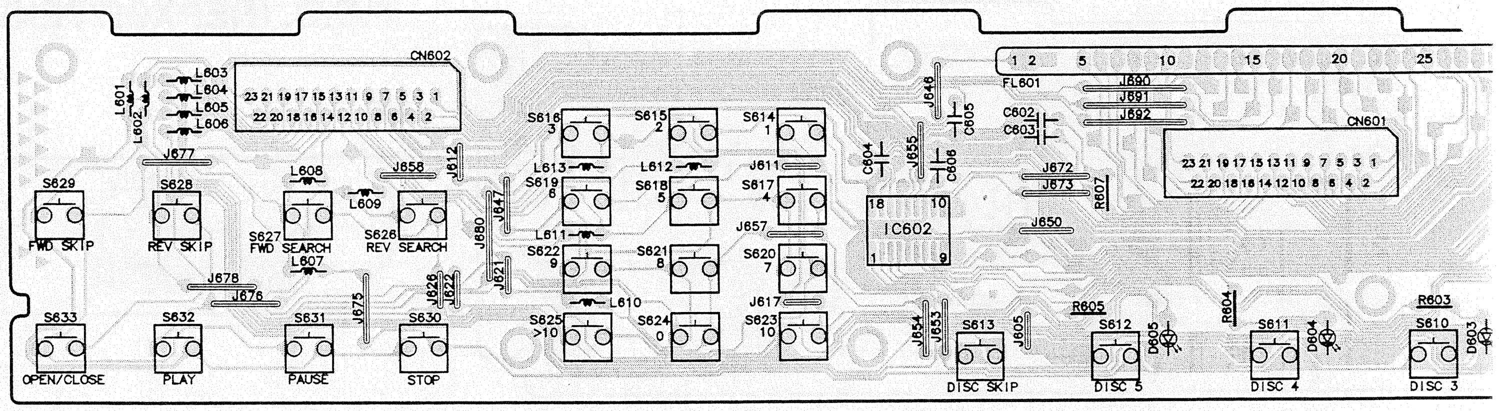
B MAIN P.C.B. (REPX0176C-M)


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
AC IN ~ 230–240V 50HZ
LINE OUT
OPTICAL OUT
CAUTION RISK OF ELECTRIC SHOCK AC VOLTAGE LINE. PLEASE DO NOT TOUCH THIS PORTION.
PT11 (POWER TRANSFORMER)
L11
L12
JK11
JK801
JK321
GND 1 VCC 2 IN 3
RCH
LCH
IC11
IC401
IC801
CN302
CN401
CN402
CN403
CN404
X401
Z301
E400
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP17

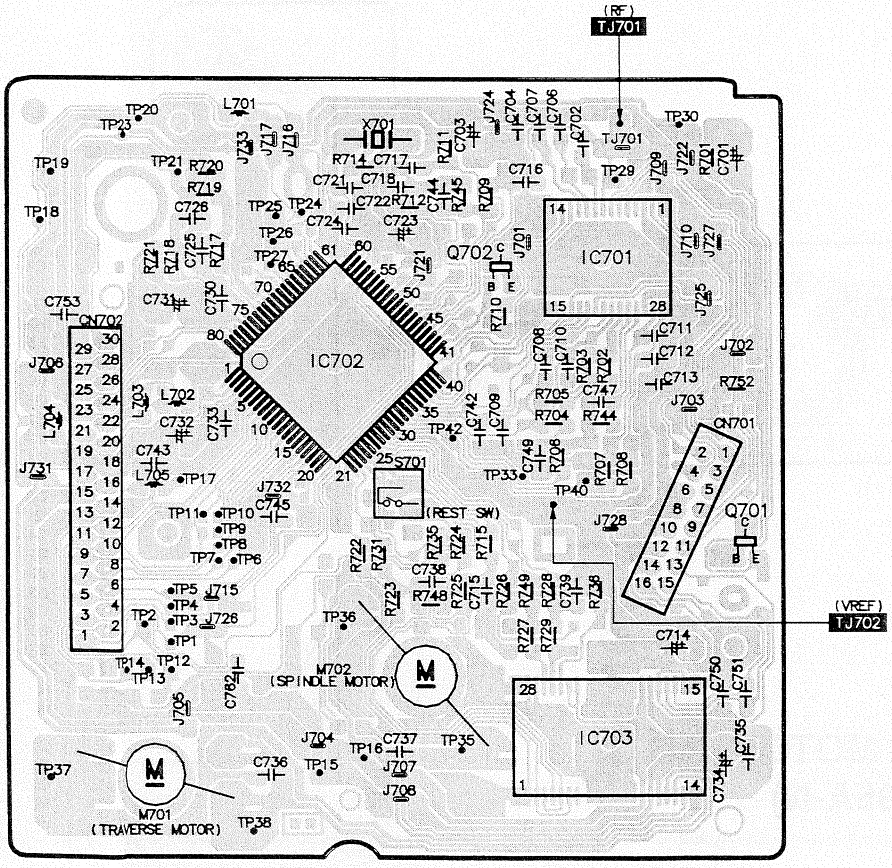
Semiconductors Locations Table

Ref. No	Loc. No
CN11	D4
CN14	D5
CN16	E4
CN17	E4
CN18	E5
CN19	E4
CN20	E5
CN21	E5
CN302	F1
CN401	J5
CN402	I5
CN403	G2
CN404	J3
D11	E5
D12	F5
D13	E5
D14	E5
D15	E3
D16	E3
D18	F4
D21	F3
D22	F3
D23	G3
D24	G3
D31	F3
D32	F3
D33	G4
D34	H5
D401	I4
D402	I5
D403	I5
D404	I5
D405	I5
D406	I5
D41	F5
D42	G5
D43	I4
D44	G4
D45	G4
D46	G3
D461	G1
D462	H2
D51	F5
D52	F5
D53	F5
D54	G5
D801	C2
D802	C3
E400	K4
IC11	F4
IC401	C3
IC801	I2
JK11	C4
JK321	B1
JK801	B2
PT11	E3
Q11	G4
Q12	G3
Q15	E3
Q18	F4
Q19	G4
Q21	G3
Q22	G4
Q31	G4
Q32	G5
Q33	G5
Q401	H2
Q42	F5
Q43	F5
Q461	G1
Q462	I3
Q801	C2
Q802	C3
Q851	F3
Q852	F3
Q853	G3
X401	I3
Z301	E2

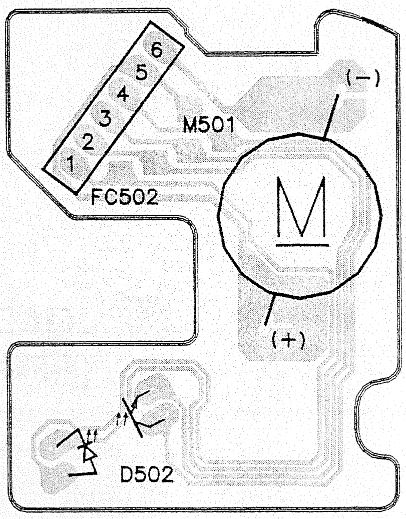
C PANEL P.C.B. (REPX0177E-S)

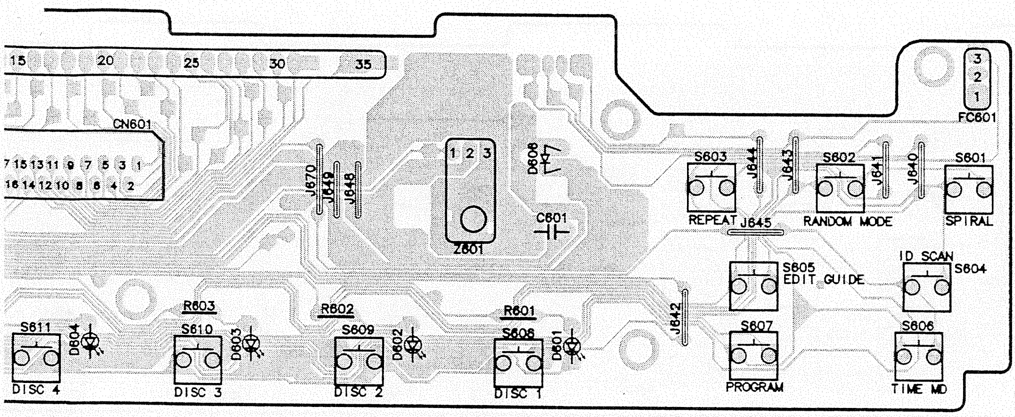

CN602
L601
L602
L603
L604
L605
L606
L677
L608
L609
J658
J612
S629
FWD SKIP
S628
REV SKIP
S627
FWD SEARCH
L607
S626
REV SEARCH
J678
J676
J675
J628
J622
J680
J621
J647
S633
OPEN/CLOSE
S632
PLAY
S631
PAUSE
S630
STOP
S616
3
S615
2
S614
1
L613
L612
J611
S619
6
S618
5
S617
4
L611
J657
S622
9
S621
8
S620
7
L610
J617
S625
>10
S624
0
S623
10
J648
C605
C604
J655
C606
C602
C603
FL601
J690
J691
J692
CN601
J672
J673
R607
IC602
J650
J654
J653
S613
J605
DISC SKIP
R605
S612
DISC 5
D605
R604
S611
DISC 4
D604
R603
S610
DISC 3
D603

A SERVO P.C.B. (REPX0145)

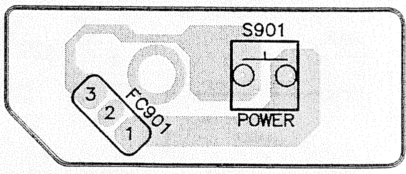

(RF)
TJ701
(VREF)
TJ702
IC701
IC702
IC703
CN702
CN701
Q702
Q701
X701
S701
(REST SW)
M702
(SPINDLE MOTOR)
M701
(TRAVERSE MOTOR)
L701
L702
L703
L704
L705
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TP20
TP21
TP23
TP24
TP25
TP26
TP27
TP29
TP30
TP33
TP35
TP36
TP37
TP38
TP40
TP42
J701
J702
J703
J704
J705
J706
J707
J708
J709
J710
J715
J716
J717
J721
J722
J724
J725
J726
J727
J728
J731
J732
J733
C701
C702
C703
C704
C706
C707
C708
C709
C710
C711
C712
C713
C714
C715
C716
C717
C718
C721
C722
C723
C724
C725
C726
C730
C731
C732
C733
C734
C735
C736
C737
C738
C739
C742
C743
C744
C745
C747
C749
C750
C751
C753
C782
R701
R702
R703
R704
R705
R706
R707
R708
R709
R710
R711
R712
R714
R715
R717
R718
R719
R720
R721
R722
R723
R724
R725
R726
R727
R728
R729
R731
R735
R738
R744
R745
R748
R749
R752
M

F TRAY MOTOR P.C.B. (REPX0096A-N)

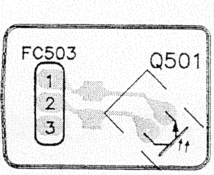

1
2
3
4
5
6
FC502
M501
(−)
(+)
M
D502


15
20
25
30
35
CN601
7 15 13 11 9 7 5 3 1
16 14 12 10 8 6 4 2
J670
J649
J648
1 2 3
Z601
D606
C601
S603
REPEAT
J645
J644
J643
S602
RANDOM MODE
J641
J640
S601
SPIRAL
3
2
1
FC601
S605
EDIT GUIDE
ID SCAN
S604
J642
S607
PROGRAM
S606
TIME MD
S611
D604
DISC 4
R603
S610
D603
DISC 3
R602
S609
D602
DISC 2
R601
S608
D601
DISC 1

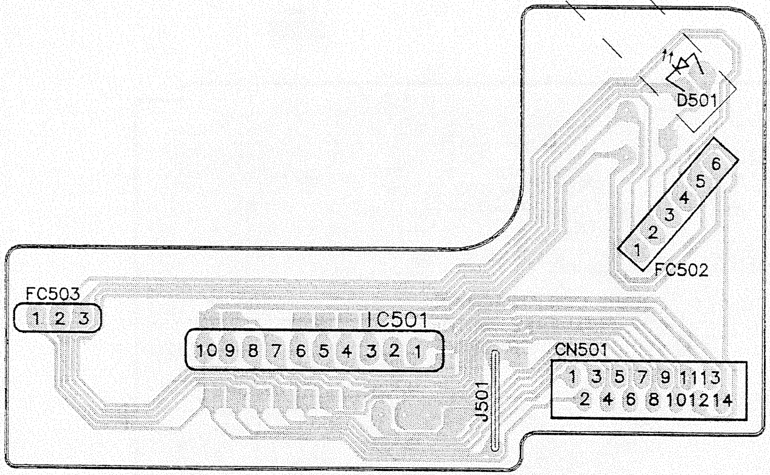
D POWER SWITCH P.C.B. (REPX0177E-S)


S901
3
2
1
FC901
POWER

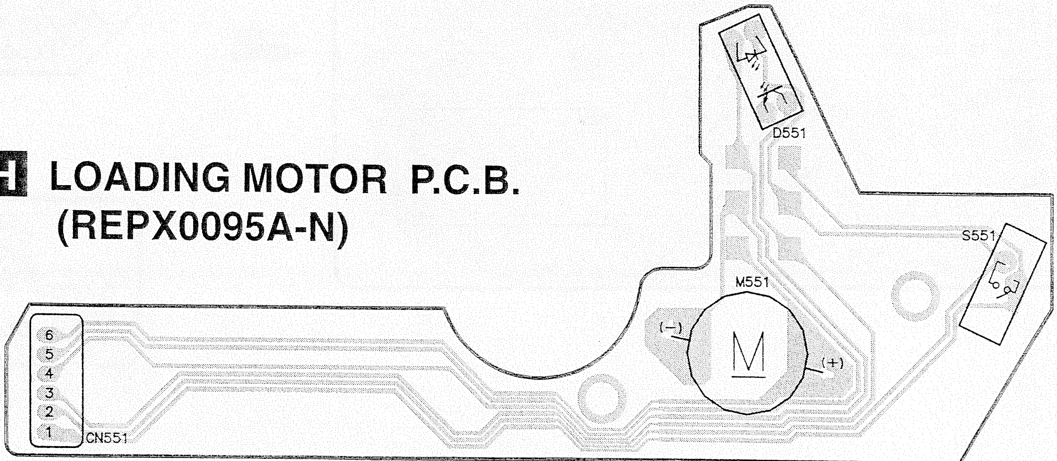
G PHOTO TRANSISTOR P.C.B. (REPX0096A-N)


FC503
1
2
3
Q501

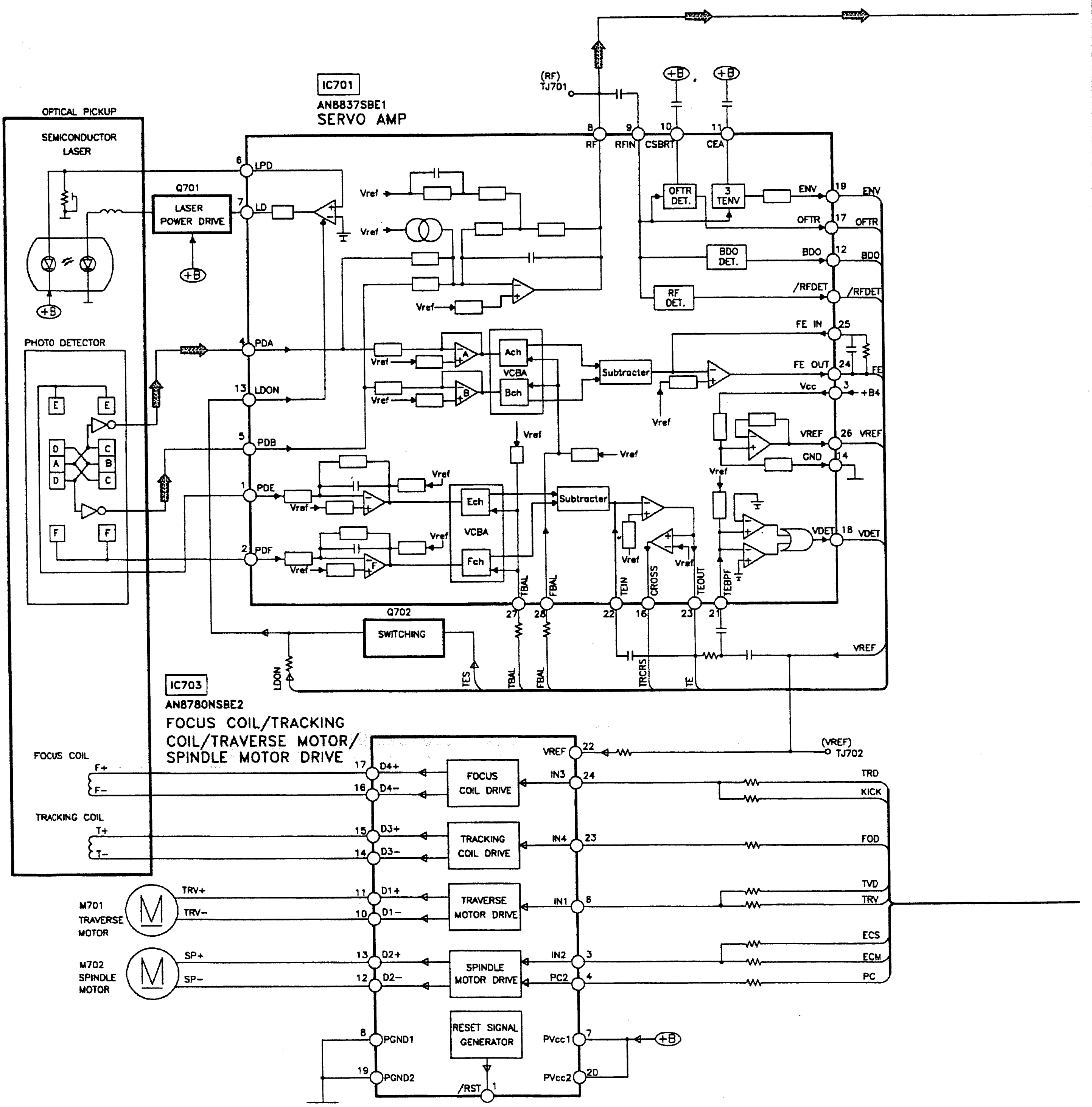
E SENSOR P.C.B. (REPX0096A-N)

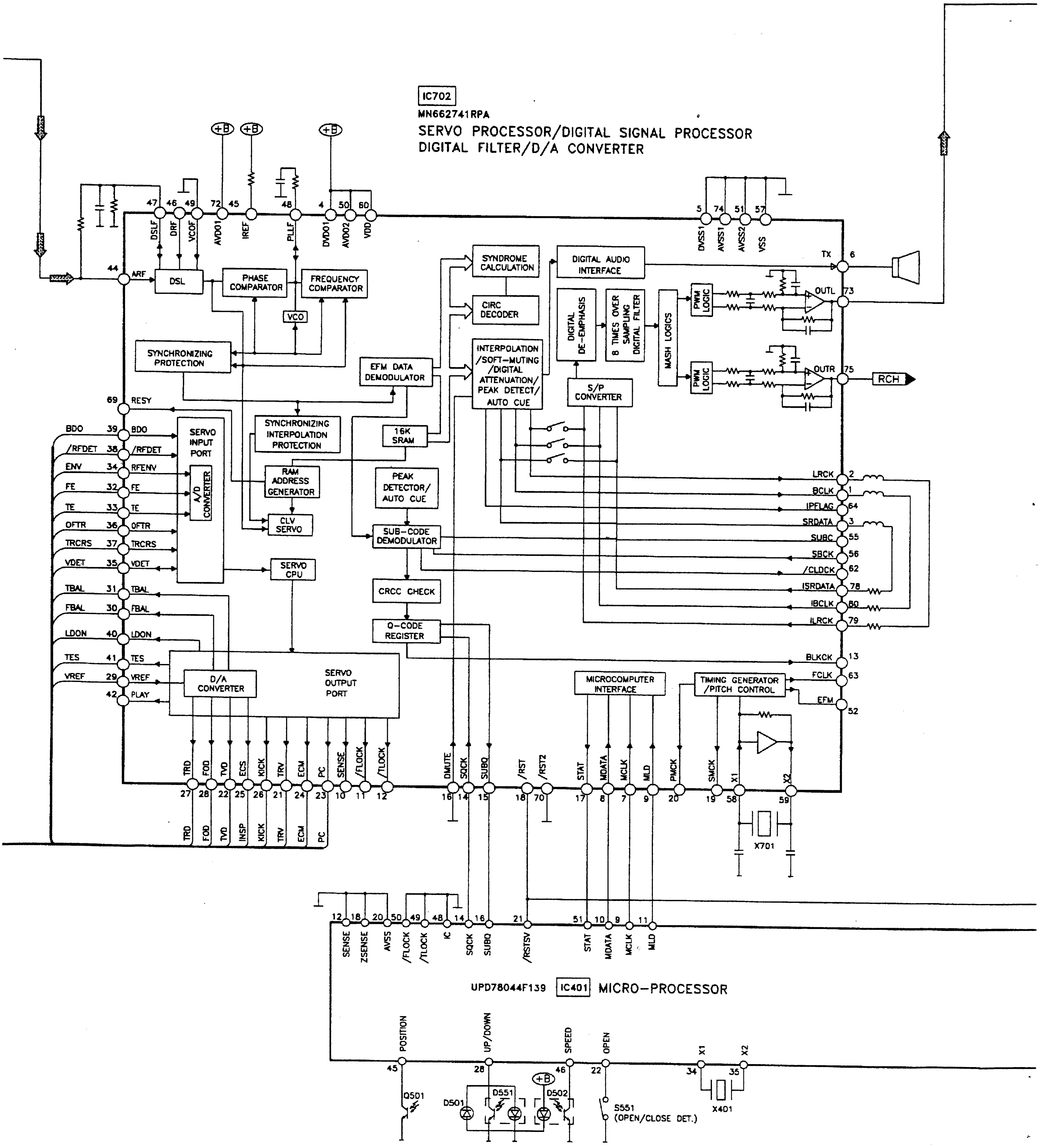

D501
6
5
4
3
2
1
FC502
FC503
1 2 3
IC501
10 9 8 7 6 5 4 3 2 1
J501
CN501
1 3 5 7 9 11 13
2 4 6 8 10 12 14

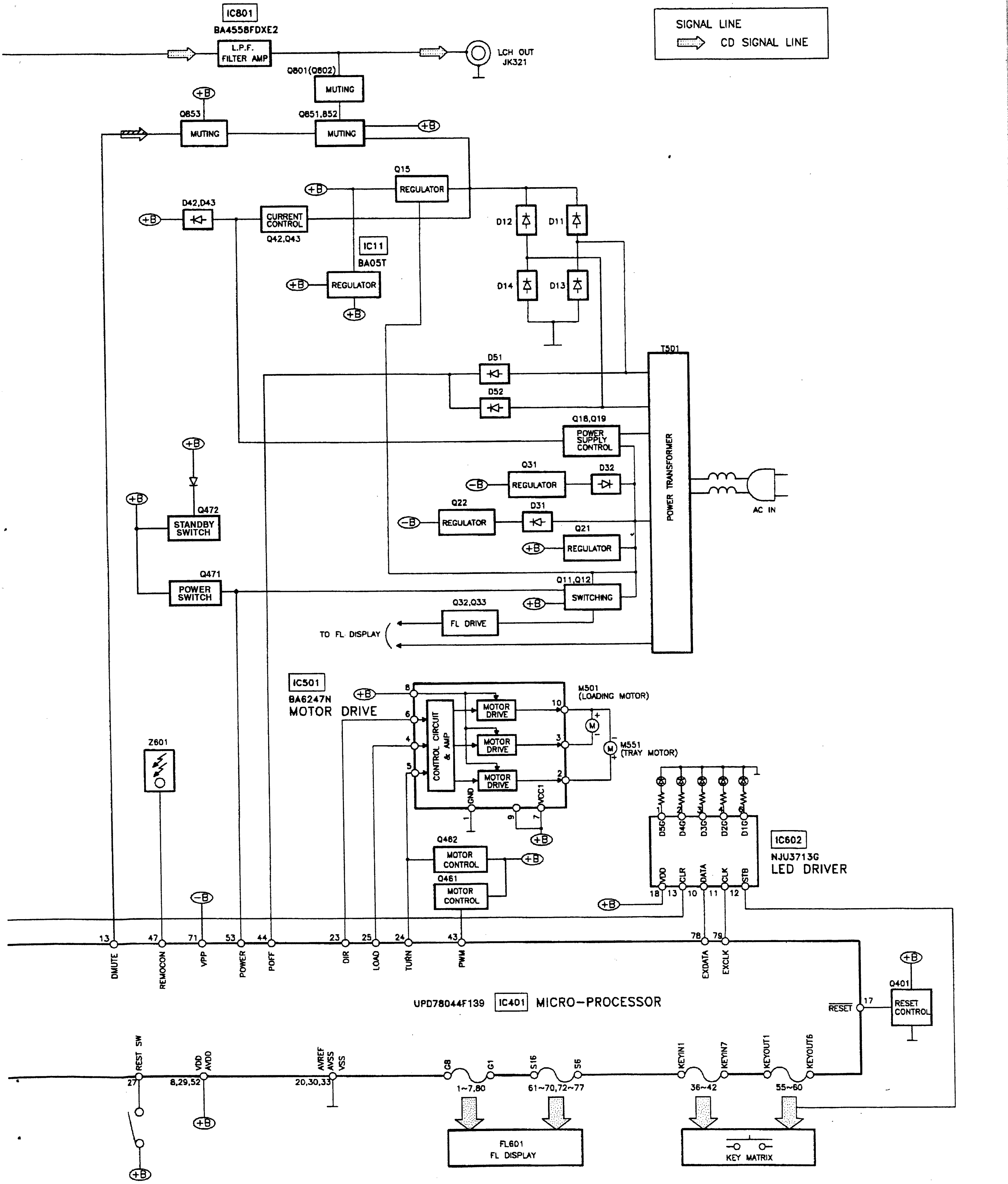
H LOADING MOTOR P.C.B. (REPX0095A-N)


D551
S551
M551
(−)
M
(+)
6
5
4
3
2
1
CN551

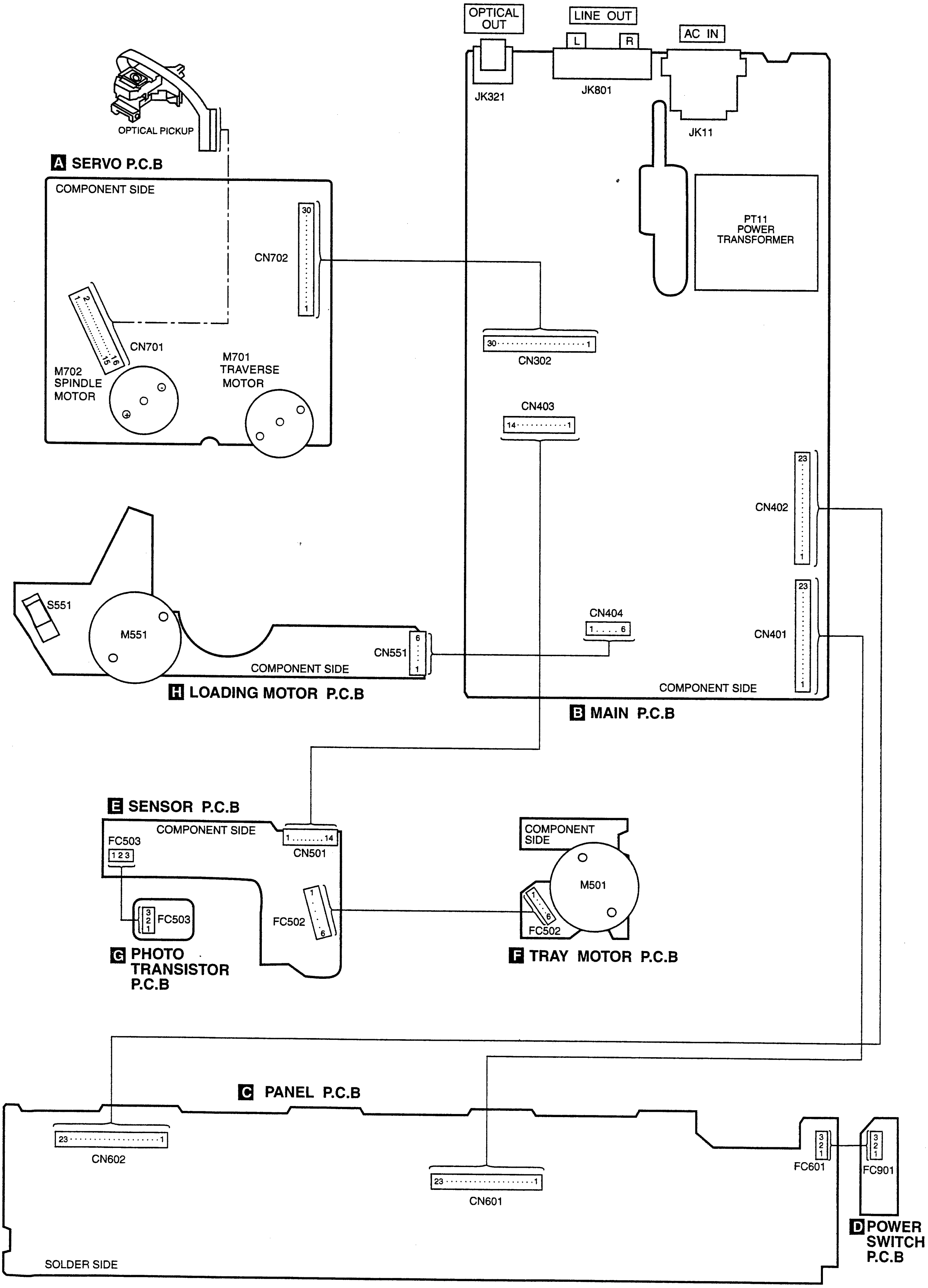
■ Block Diagram


IC701
AN8837SBE1
SERVO AMP
OPTICAL PICKUP
SEMICONDUCTOR LASER
PHOTO DETECTOR
Q701
LASER POWER DRIVE
+B
(RF) TJ701
RF
RFIN
CSBRT
CEA
LPD
LD
PDA
LDON
PDB
PDE
PDF
Vref
OFTR DET.
3 TENV
BDO DET.
RF DET.
ENV
OFTR
BDO
/RFDET
FE IN
FE OUT
Vcc
VREF
GND
VDET
FE
+B4
Ach
VCBA
Bch
Ech
Fch
Subtracter
TBAL
FBAL
TEIN
CROSS
TEOUT
TEBPF
Q702
SWITCHING
LDON
TES
TRCRS
TE
IC703
AN8780NSBE2
FOCUS COIL/TRACKING COIL/TRAVERSE MOTOR/ SPINDLE MOTOR DRIVE
FOCUS COIL
F+
F−
TRACKING COIL
T+
T−
M701 TRAVERSE MOTOR
TRV+
TRV−
M702 SPINDLE MOTOR
SP+
SP−
D4+
D4−
D3+
D3−
D1+
D1−
D2+
D2−
FOCUS COIL DRIVE
TRACKING COIL DRIVE
TRAVERSE MOTOR DRIVE
SPINDLE MOTOR DRIVE
RESET SIGNAL GENERATOR
IN3
IN4
IN1
IN2
PC2
PVcc1
PVcc2
PGND1
PGND2
/RST
(VREF) TJ702
TRD
KICK
FOD
TVD
TRV
ECS
ECM
PC

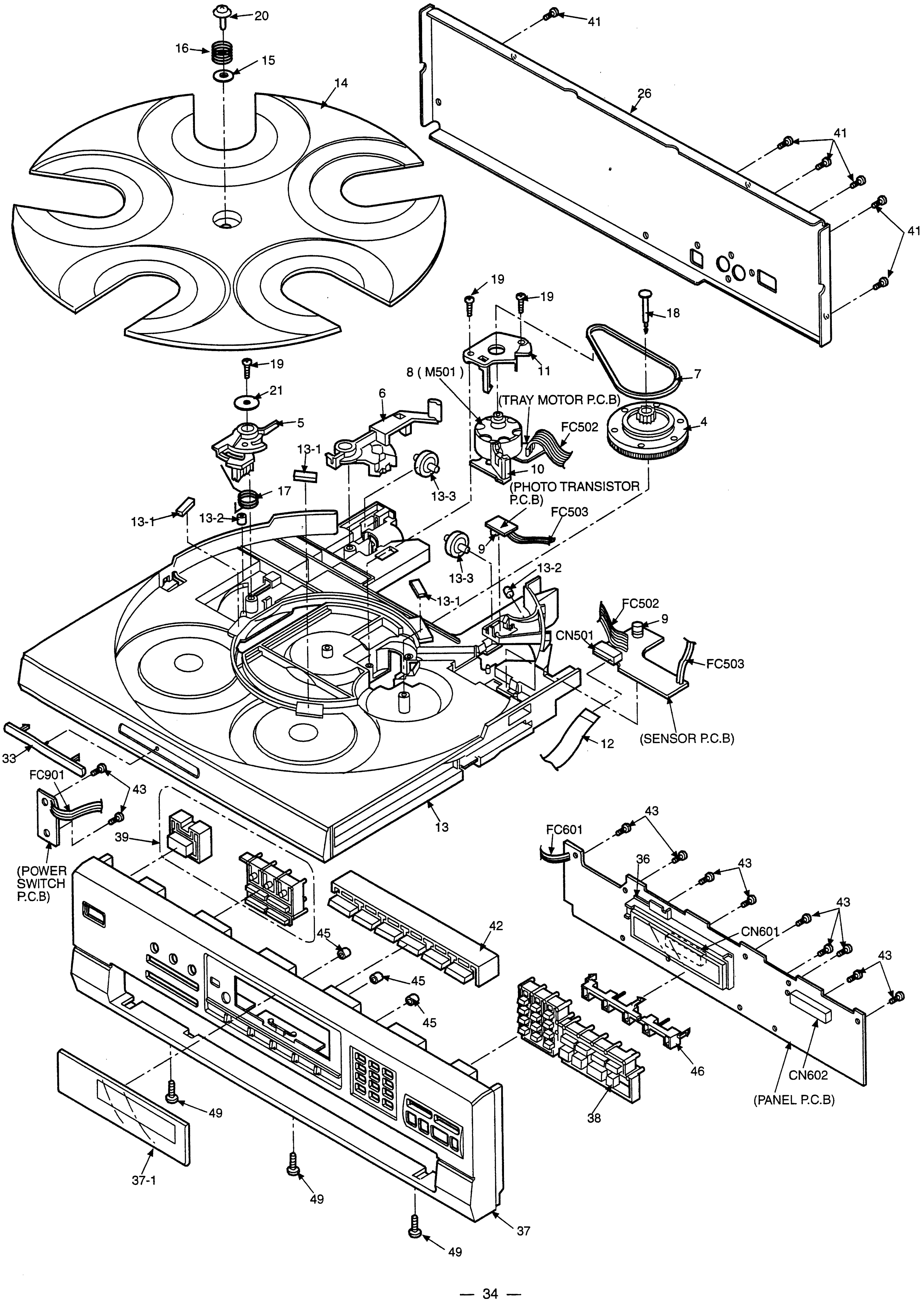

IC702
MN662741RPA
SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR
DIGITAL FILTER/D/A CONVERTER
+B
DSLF
DRF
VCOF
AVDD1
IREF
PLLF
DVDD1
AVDD2
VDD
DVSS1
AVSS1
AVSS2
VSS
ARF
DSL
PHASE COMPARATOR
FREQUENCY COMPARATOR
VCO
SYNCHRONIZING PROTECTION
EFM DATA DEMODULATOR
SYNDROME CALCULATION
CIRC DECODER
INTERPOLATION /SOFT-MUTING /DIGITAL ATTENUATION/ PEAK DETECT/ AUTO CUE
DIGITAL AUDIO INTERFACE
DIGITAL DE-EMPHASIS
8 TIMES OVER SAMPLING DIGITAL FILTER
MASH LOGICS
PWM LOGIC
S/P CONVERTER
TX
OUTL
OUTR
RCH
RESY
BDO
/RFDET
ENV
RFENV
FE
TE
OFTR
TRCRS
VDET
TBAL
FBAL
LDON
TES
VREF
PLAY
SERVO INPUT PORT
A/D CONVERTER
SYNCHRONIZING INTERPOLATION PROTECTION
16K SRAM
RAM ADDRESS GENERATOR
PEAK DETECTOR/ AUTO CUE
CLV SERVO
SUB-CODE DEMODULATOR
SERVO CPU
CRCC CHECK
Q-CODE REGISTER
D/A CONVERTER
SERVO OUTPUT PORT
LRCK
BCLK
IPFLAG
SRDATA
SUBC
SBCK
/CLDCK
ISRDATA
IBCLK
ILRCK
BLKCK
FCLK
EFM
MICROCOMPUTER INTERFACE
TIMING GENERATOR /PITCH CONTROL
TRD
FOD
TVD
ECS
KICK
TRV
ECM
PC
SENSE
/FLOCK
/TLOCK
DMUTE
SQCK
SUBQ
/RST
/RST2
STAT
MDATA
MCLK
MLD
PMCK
SMCK
X1
X2
INSP
X701
SENSE
ZSENSE
AVSS
IC
/RSTSV
UPD78044F139
IC401
MICRO-PROCESSOR
POSITION
UP/DOWN
SPEED
OPEN
Q501
D501
D551
D502
S551 (OPEN/CLOSE DET.)
X401

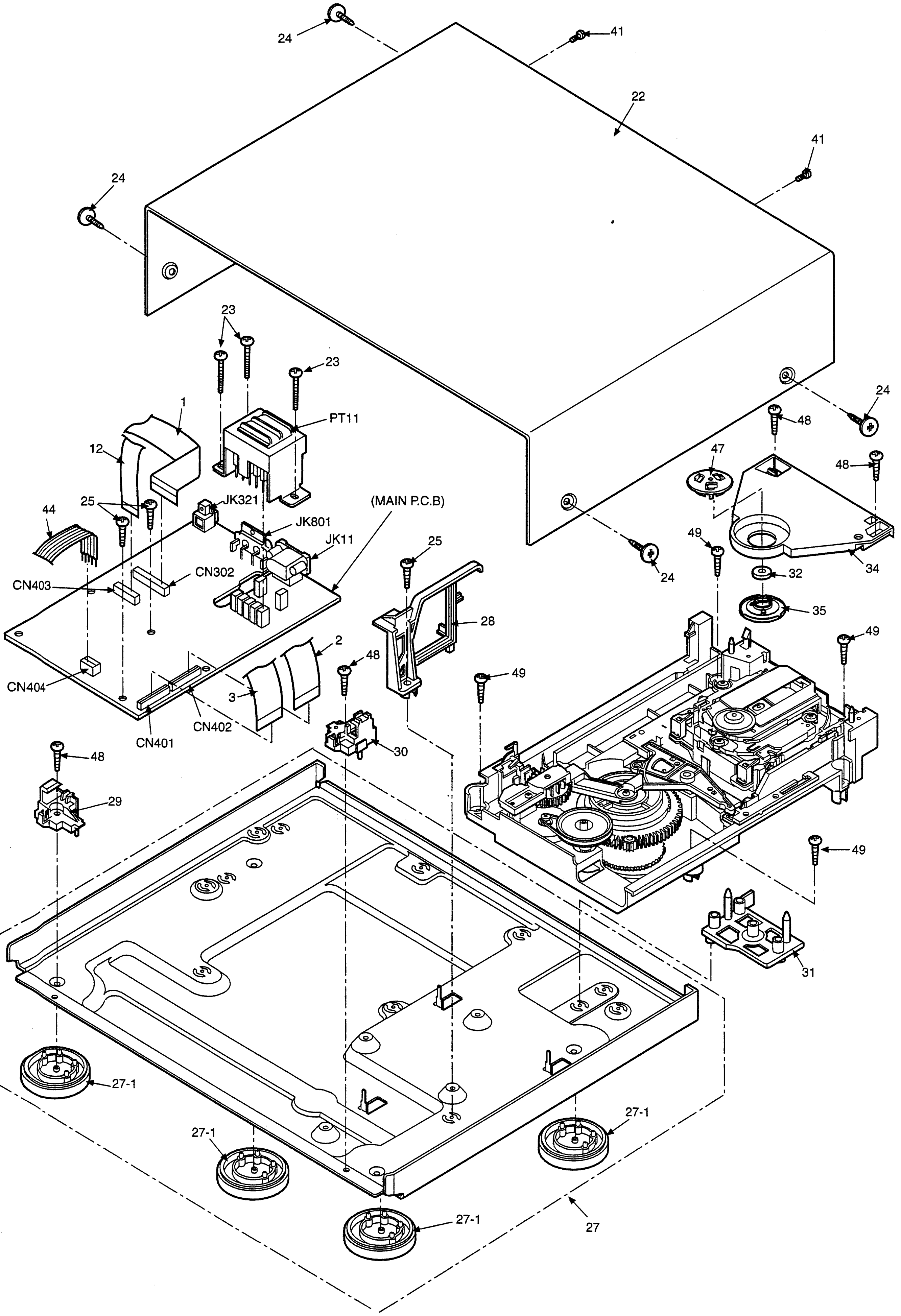

SIGNAL LINE
CD SIGNAL LINE
IC801
BA4558FDXE2
L.P.F. FILTER AMP
LCH OUT
JK321
Q801(Q802)
MUTING
Q853
MUTING
Q851,852
MUTING
+B
Q15
REGULATOR
D42,D43
CURRENT CONTROL
Q42,Q43
IC11
BA05T
REGULATOR
D12
D11
D14
D13
T501
D51
D52
Q18,Q19
POWER SUPPLY CONTROL
POWER TRANSFORMER
Q31
REGULATOR
D32
Q22
REGULATOR
D31
Q21
REGULATOR
-B
AC IN
Q472
STANDBY SWITCH
Q471
POWER SWITCH
Q11,Q12
SWITCHING
Q32,Q33
FL DRIVE
TO FL DISPLAY
IC501
BA6247N
MOTOR DRIVE
CONTROL CIRCUIT & AMP
MOTOR DRIVE
MOTOR DRIVE
MOTOR DRIVE
GND
VCC1
M501 (LOADING MOTOR)
M551 (TRAY MOTOR)
M
Z601
Q462
MOTOR CONTROL
Q461
MOTOR CONTROL
D5G
D4G
D3G
D2G
D1G
VDD
CLR
DATA
CLK
STB
IC602
NJU3713G
LED DRIVER
18
13
10
11
12
13 DMUTE
47 REMOCON
71 VPP
53 POWER
44 POFF
23 DIR
25 LOAD
24 TURN
43 PWM
78 EXDATA
79 EXCLK
UPD78044F139
IC401
MICRO-PROCESSOR
RESET
17
Q401
RESET CONTROL
27 REST SW
8,29,52 VDD AVDD
20,30,33 AVREF AVSS VSS
G8 G1 1~7,80
S16 S6 61~70,72~77
KEYIN1 KEYIN7 36~42
KEYOUT1 KEYOUT6 55~60
FL601
FL DISPLAY
KEY MATRIX

■ Wiring Connection Diagram

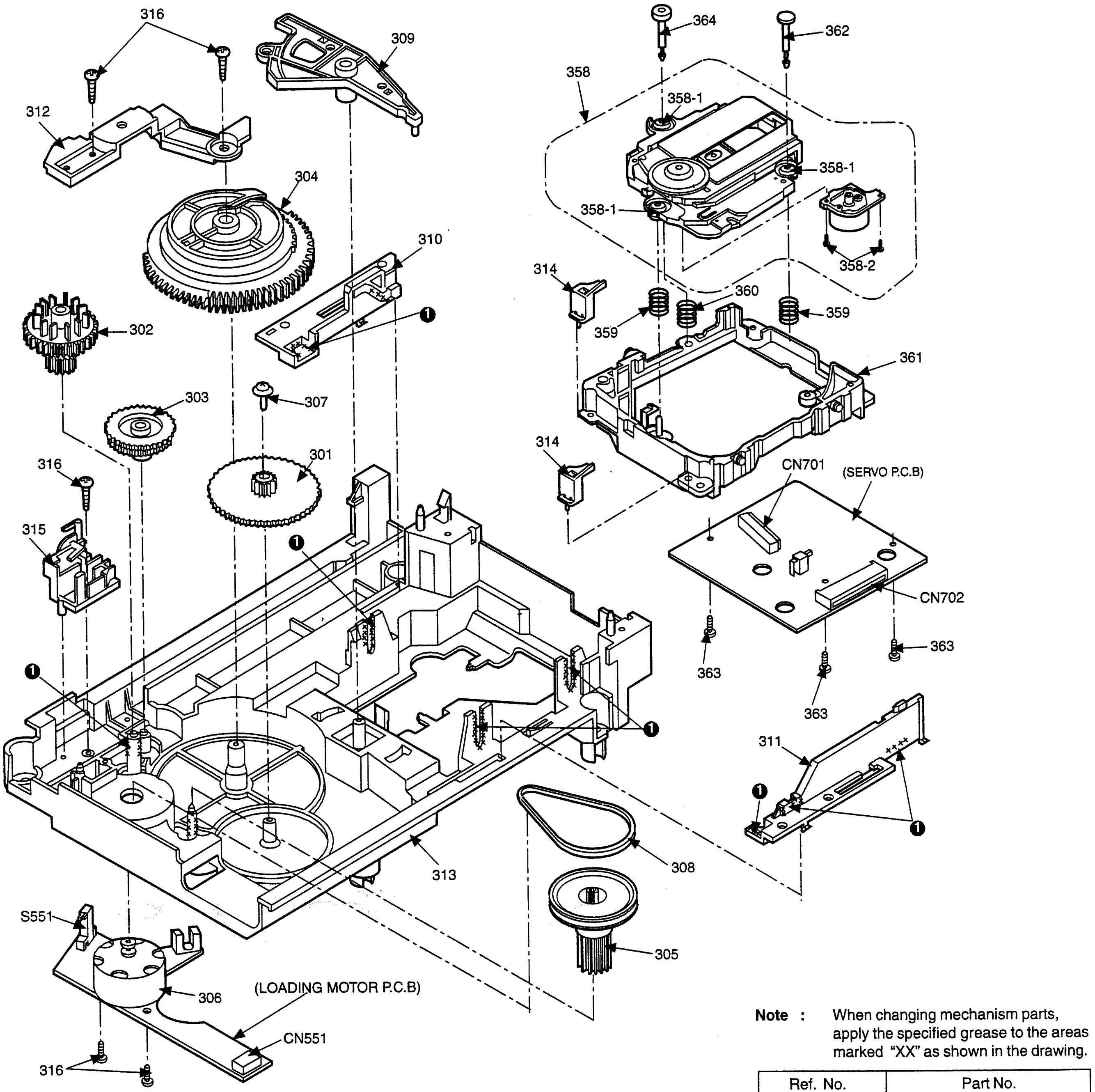

OPTICAL OUT
LINE OUT
L
R
AC IN
JK321
JK801
JK11
OPTICAL PICKUP
A SERVO P.C.B
COMPONENT SIDE
30
1
CN702
PT11
POWER
TRANSFORMER
2
1
16
15
CN701
M702
SPINDLE
MOTOR
M701
TRAVERSE
MOTOR
30
1
CN302
CN403
14
1
23
1
CN402
S551
M551
6
1
CN551
COMPONENT SIDE
H LOADING MOTOR P.C.B
CN404
1 6
23
1
CN401
COMPONENT SIDE
B MAIN P.C.B
E SENSOR P.C.B
COMPONENT SIDE
FC503
1 2 3
1 14
CN501
COMPONENT
SIDE
M501
3
2
1
FC503
FC502
1
6
1
6
FC502
G PHOTO
TRANSISTOR
P.C.B
F TRAY MOTOR P.C.B
C PANEL P.C.B
23
1
CN602
23
1
CN601
3
2
1
FC601
3
2
1
FC901
D POWER
SWITCH
P.C.B
SOLDER SIDE

■ Cabinet Parts Location


20
16
15
14
41
26
41
41
41
19
19
18
11
7
19
8 (M501)
21
6
(TRAY MOTOR P.C.B)
FC502
4
5
13-1
10
(PHOTO TRANSISTOR P.C.B)
17
13-3
FC503
13-1
13-2
9
13-3
13-2
13-1
FC502
9
CN501
FC503
12
(SENSOR P.C.B)
33
FC901
43
13
39
43
FC601
36
43
(POWER SWITCH P.C.B)
42
45
CN601
43
45
43
45
46
CN602
49
38
(PANEL P.C.B)
37-1
49
37
49


PT11
JK321
JK801
JK11
(MAIN P.C.B)
CN403
CN302
CN404
CN401
CN402
27-1
27-1
27-1
27-1

■ Loading Mechanism Parts


316
309
364
362
358
358-1
312
304
358-1
358-1
310
358-2
314
360
359
302
359
361
❶
303
307
314
301
CN701
(SERVO P.C.B)
316
❶
315
CN702
363
363
❶
363
❶
311
❶
❶
308
313
S551
305
306
(LOADING MOTOR P.C.B)
CN551
316

Note : When changing mechanism parts, apply the specified grease to the areas marked "XX" as shown in the drawing.

Ref. No.	Part No.
❶	RFKXPG671

Notes : [M] in Remarks column indicates parts supplied by **MESA**.

Ref No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
301	RDG0270	SPEED REDUCTION GEAR	[M]
302	RDG0271	DRIVE GEAR A	[M]
303	RDG0272	DRIVE GEAR B	[M]
304	RDK0025	DRIVE CAM	[M]
305	RDP0050	PULLEY GEAR	[M]
306	RFKPLPD667PB	LOADING MOTOR ASS'Y	[M]
307	RHD26019	SCREW	[M]
308	RMG0268-K	BELT	[M]
309	RML0334	CHANGE LEVER	[M]
310	RMM0117	SLIDE PLATE 1	[M]
311	RMM0118-1	SLIDE PLATE 2	[M]
312	RMR0746-W	STRENGTHENING PLATE	[M]
313	RFKNLPD667PB	MECHA BASE ASS'Y	[M]
314	RMX0094	TRAY GUIDE	[M]
315	RXQ0346-1	SLIDER ASS'Y	[M]
316	XTB3+10JFZ	SCREW	[M]
358	RAE0152Z-M	TRAVERSE UNIT	[M]
358-1	SHGD113-1	FLOATING CUSHION	[M]
358-2	SNSD38	TRV MOTOR ASS'Y SCRE	[M]
359	RME0109	FLOATING SPRING B	[M]
360	RME0142	FLOATING SPRING A	[M]
361	RMR0698-K	TRY CHASSIS	[M]
362	RMS0123-1	FIXED PIN B	[M]
363	XTN2+6G	PCB SCREW	[M]
364	RMS0350	FIXED PIN A	[M]

■ Replacement Parts List

Notes:
- * Important safety notice :
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
  When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
- * The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
  Parts without these indication can be used for all areas.
- * [M] in Remarks column indicates parts that are supplied by **MESA**.
- * **Warning** : This product uses a laser diode. Refer to caution on page 3.
  ACHTUNG :
  - Die Lasereinheit nicht zerlegen.
  - Die Lasereinheit darf nur gegen eine vom Hertsteller spezifizierte Einheit ausgetauscht werden.

Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	REEX0063	30P FFC	[M]
2	REEX0067	23 PIN FFC WIRE	[M]
3	REEX0068	23 PIN FFC WIRE	[M]
4	RDG0267	TRAY REDUCTION GEAR	[M]
5	RDG0268	CLOSE LOCK GEAR	[M]
6	RDG0269-3	OPEN LOCK GEAR	[M]
7	RDV0031	BELT	[M]
8	RFKPLPD667PA	TRAY MOTOR ASS'Y	[M]
9	RMN0254	LED HOLDER	[M]
10	RMN0255	SENSOR HOLDER	[M]
11	RMN0263	MOTOR HOLDER	[M]
12	REZ0648	14 PIN FFC	[M]
13	RFKNLPD8PC-K	TRAY BASE ASS'Y	[M]
13-1	RMF0182	TRAY FELT	[M]
13-2	RMG0200	SHUTTER RUBBER	[M]
13-3	RMR0546-W2	ROLLER	[M]
14	RGT0019-1	ROTARY TRAY	[M]
15	RHW81001-1	WASHER	[M]
16	RMB0365	TRAY SPRING	[M]
17	RME0152-3	LOCK GEAR SPRING	[M]
18	RMS0123-1	FIXED PIN B	[M]
19	XTB3+10G	SCREW	[M]
20	XTWS3+10T	SCREW	[M]
21	XWE3D13	WASHER	[M]
22	RKM0339-K1	TOP CABINET	[M]
23	XTB3+20J	SCREW (PCB - B/CHASSIS)	[M]
24	SNE2129-3	SCREW	[M]
25	XTB3+8J	SCREW	[M]
26	RGR0246C-C	BACK PANEL	[M]E
26	RGR0246C-D	BACK PANEL	[M]EB EG
27	RFKJLPD8PC-K	CHASSIS ASS'Y	[M]
27-1	RKA0079-A	FOOT	[M]
28	RMR0749-W	CABLE HOLDER	[M]
29	RMR0742-K	BASE GUIDE (L)	[M]
30	RMR0743-K	BASE GUIDE (R)	[M]
31	RMR0765-W1	TRANFORMER BASE	[M]
32	RHM0001	MAGNET	[M]
33	RGBX0005-N	CHANGER BAOGE	[M]
34	RMR0744-W	CLAMPER PLATE	[M]
35	RMR0624-W2	CLAMPER	[M]
36	RMN0185-1	FL HOLDER	[M]
37	RFKGLPD8EB-K	FRONT PANEL ASS'Y	[M]
37-1	RGKX0041B-Q	DISPLAY WINDOW	[M]
38	RGUX0322-K	CONTROL BUTTON	[M]
39	RYQX0021-K	PROGRAM BUTTON UNIT	[M]
41	XTBS3+8JFZ1	SCREW	[M]
42	RYQX0027-K	DISC BUTTON ASSEMBLY	[M]
43	XTBS26+12J	SCREW	[M]
44	RWJ1806115XX	6 PIN WIRE	[M]
45	RMG0200	SHUTTER RUBBER	[M]
46	RMNX0026-K	LED COVER	[M]
47	RMR0334	FIXED PLATE	[M]
48	XTB3+10JFZ	SCREW	[M]
49	XTB3+8JFZ	SCREW	[M]
		INTEGRATED CIRCUITS	
IC11	BA05T	IC, 5V REGULATOR	[M] ⚠
IC401	UPD78044F139	IC, MICROPROCESSOR	[M]
IC501	BA6247N	IC	[M]
IC602	NJU3713G	IC, LED DRIVER	[M]
IC701	AN8837SBE1	IC, HEAD AMP	[M]
IC702	MN662741RPA	IC, DIGITAL LSI	[M]
IC703	AN8780NSBE2	IC	[M]
IC801	BA4558FDXE2	IC	[M]
		TRANSISTORS	
Q11	KRC107MTA	TRANSISTOR	[M]
Q12	2SB1238QRTV2	TRANSISTOR	[M]
Q15	2SD2037ETA	TRANSISTOR	[M] ⚠
Q18	2SD1859QRTV2	TRANSISTOR	[M] ⚠
Q19	KRC107MTA	TRANSISTOR	[M] ⚠
Q21	2SC2785FETA	TRANSISTOR	[M] ⚠
Q22	2SA1175FETA	TRANSISTOR	[M] ⚠
Q31	2SB1238QRTV2	TRANSISTOR	[M] ⚠
Q32	2SD2144STA	TRANSISTOR	[M]
Q33	2SD2144STA	TRANSISTOR	[M]
Q42	2SD1862QTV2	TRANSISTOR	[M]
Q43	2SD1862QTV2	TRANSISTOR	[M]
Q401	2SC2785FETA	TRANSISTOR	[M]
Q461	KRC111MTA	TRANSISTOR	[M]
Q462	KRC111MTA	TRANSISTOR	[M]
Q471	KRC107MTA	TRANSISTOR	[M]
Q472	2SC2785FETA	TRANSISTOR	[M]
Q501	PT381	TRANSISTOR	[M]
Q701	2SA1037AKSTX	TRANSISTOR	[M]
Q702	DTC114YKA146	TRANSISTOR	[M]
Q801	2SD2144STA	TRANSISTOR	[M]
Q802	2SD2144STA	TRANSISTOR	[M]
Q851	KRA103MTA	TRANSISTOR	[M]
Q852	KRC103MTA	TRANSISTOR	[M]
Q853	KRA103MTA	TRANSISTOR	[M]
		DIODES	
D11	RL1N4003N02	DIODE	[M] ⚠
D12	RL1N4003N02	DIODE	[M] ⚠
D13	RL1N4003N02	DIODE	[M] ⚠
D14	RL1N4003N02	DIODE	[M] ⚠
D15	MTZJ9R1CTA	DIODE	[M] ⚠
D16	RL1N4003N02	DIODE	[M] ⚠
D18	RL1N4003N02	DIODE	[M]
D21	RL1N4003N02	DIODE	[M] ⚠
D22	RL1N4003N02	DIODE	[M] ⚠
D23	MTZJ8R2CTA	DIODE	[M] ⚠
D24	MTZJ8R2CTA	DIODE	[M] ⚠
D31	RL1N4003N02	DIODE	[M] ⚠
D32	RL1N4003N02	DIODE	[M] ⚠
D33	MTZJ30BTA	DIODE	[M] ⚠
D34	MTZJ9R1CTA	DIODE	[M] ⚠
D41	MTZJ6R2CTA	DIODE	[M]
D42	RL1N4003N02	DIODE	[M]
D43	1SS291TA	DIODE	[M]
D44	RVD1SS133TA	DIODE	[M]
D45	RVD1SS133TA	DIODE	[M]
D46	RVD1SS133TA	DIODE	[M]
D51	RVD1SS133TA	DIODE	[M] ⚠

Ref No.	Part No.	Part Name & Description	Remarks
D52	RVD1SS133TA	DIODE	[M] ⚠
D53	MTZJ5R1BTA	DIODE	[M] ⚠
D54	RVD1SS133TA	DIODE	[M]
D401	RVD1SS133TA	DIODE	[M]
D402	RVD1SS133TA	DIODE	[M]
D403	RVD1SS133TA	DIODE	[M]
D404	RVD1SS133TA	DIODE	[M]
D405	RVD1SS133TA	DIODE	[M]
D406	RVD1SS133TA	DIODE	[M]
D461	MTZJ6R8CTA	DIODE	[M]
D462	MTZJ5R6BTA	DIODE	[M]
D501	GL380	DIODE	[M]
D502	RSQGP1S53V	DIODE	[M]
D551	SG-206S	DIODE	[M]
D601	LNJ301MPUJAD	DIODE	[M]
D602	LNJ301MPUJAD	DIODE	[M]
D603	LNJ301MPUJAD	DIODE	[M]
D604	LNJ301MPUJAD	DIODE	[M]
D605	LNJ301MPUJAD	DIODE	[M]
D606	LN018304P	DIODE	[M]
D801	RVD1SS133TA	DIODE	[M]
D802	RVD1SS133TA	DIODE	[M]
		SWITCHES	
S551	RSH1A005-1U	SWITCH	[M]
S601	EVQ21405R	SW, SPIRAL	[M]
S602	EVQ21405R	SW, RANDOM MODE	[M]
S603	EVQ21405R	SW, REPEAT	[M]
S604	EVQ21405R	SW, ID SCAN	[M]
S605	EVQ21405R	SW, EDIT GUIDE	[M]
S606	EVQ21405R	SW, TIME MD	[M]
S607	EVQ21405R	SW, PROGRAM	[M]
S608	EVQ21405R	SW, DISC 1	[M]
S609	EVQ21405R	SW, DISC 2	[M]
S610	EVQ21405R	SW, DISC 3	[M]
S611	EVQ21405R	SW, DISC 4	[M]
S612	EVQ21405R	SW, DISC 5	[M]
S613	EVQ21405R	SW, DISC SKIP	[M]
S614	EVQ21405R	SW, TRACK 1	[M]
S615	EVQ21405R	SW, TRACK 2	[M]
S616	EVQ21405R	SW, TRACK 3	[M]
S617	EVQ21405R	SW, TRACK 4	[M]
S618	EVQ21405R	SW, TRACK 5	[M]
S619	EVQ21405R	SW, TRACK 6	[M]
S620	EVQ21405R	SW, TRACK 7	[M]
S621	EVQ21405R	SW, TRACK 8	[M]
S622	EVQ21405R	SW, TRACK 9	[M]

Ref No.	Part No.	Part Name & Description	Remarks
S623	EVQ21405R	SW, TRACK 10	[M]
S624	EVQ21405R	SW, TRACK 0	[M]
S625	EVQ21405R	SW, TRACK >10	[M]
S626	EVQ21405R	SW, REV SEARCH	[M]
S627	EVQ21405R	SW, FWD SEARCH	[M]
S628	EVQ21405R	SW, REV SKIP	[M]
S629	EVQ21405R	SW, FWD SKIP	[M]
S630	EVQ21405R	SW, STOP	[M]
S631	EVQ21405R	SW, PAUSE	[M]
S632	EVQ21405R	SW, PLAY	[M]
S633	EVQ21405R	SW, OPEN/CLOSE	[M]
S701	RSH1A043-U	SW, REST	[M]
S901	EVQ21405R	SW, POWER	[M]
		CONNECTORS	
CN11	RJS1A1101T1	CONNECTOR	[M]
CN14	RJS1A1101T1	CONNECTOR	[M]
CN16	RJS1A1101T1	CONNECTOR	[M]
CN17	RJS1A1101T1	CONNECTOR	[M]
CN18	RJS1A1101T1	CONNECTOR	[M]
CN19	RJS1A1101T1	CONNECTOR	[M]
CN20	RJS1A1101T1	CONNECTOR	[M]
CN21	RJS1A1101T1	CONNECTOR	[M]
CN302	RJS2A3330	30P CONNECTOR	[M]
CN401	RJS1A9423	FFC CONNECTOR	[M]
CN402	RJS1A9423	FFC CONNECTOR	[M]
CN403	RJS1A9414-1	14P FFC CONNECTOR	[M]
CN404	RJS1A6606T1	TAPING CONNECTOR	[M]
CN501	RJS1A6714-Q	14P CONNECTOR	[M]
CN551	RJS2A1506	6P CONNECTOR	[M]
CN601	RJS1A6223-1	23P CONNECTOR	[M]
CN602	RJS1A6223-1	23P CONNECTOR	[M]
CN701	RJS2A6016	16P FFC CONNECTOR	[M]
CN702	RJS2A4230-1F	30P CONNECTOR	[M]
		COILS & TRANSFORMERS	
L11	SLQX400-1D	RADIO FREQ COIL	[M] ⚠
L12	SLQX400-1D	RADIO FREQ COIL	[M] ⚠
L601	RLQZP101KT-Y	AXIAL COIL	[M]
L602	RLQZP101KT-Y	AXIAL COIL	[M]
L603	RLQZP101KT-Y	AXIAL COIL	[M]
L604	RLQZP101KT-Y	AXIAL COIL	[M]
L605	RLQZP101KT-Y	AXIAL COIL	[M]
L606	RLQZP101KT-Y	AXIAL COIL	[M]
L607	RLQZP101KT-Y	AXIAL COIL	[M]
L608	RLQZP101KT-Y	AXIAL COIL	[M]

Ref No.	Part No.	Part Name & Description	Remarks
L609	RLQZP101KT-Y	AXIAL COIL	[M]
L610	RLQZP101KT-Y	AXIAL COIL	[M]
L611	RLQZP101KT-Y	AXIAL COIL	[M]
L612	RLQZP101KT-Y	AXIAL COIL	[M]
L613	RLQZP101KT-Y	AXIAL COIL	[M]
L701	RLBN102V-Y	CHIP INDUCTOR	[M]
L702	RLBN102V-Y	CHIP INDUCTOR	[M]
L703	RLBN102V-Y	CHIP INDUCTOR	[M]
L704	RLBN102V-Y	CHIP INDUCTOR	[M]
L705	RLBN102V-Y	CHIP INDUCTOR	[M]
PT11	RTP1K4B030-X	POWER TRANSFORMER	[M] ⚠
		COMPONENT COMBINATION	
Z301	BL02RN2R65T2	COIL	[M]
Z601	RCDGP1U28XD	REMOTE SENSOR	[M]
		OSCILLATORS	
X401	RSXY4M23M01T	CRYSTAL RESONATOP	[M]
X701	RSXB16M9J02T	CRYSTAL OSCILLATOR	[M]
		DISPLAY TUBE	
FL601	RSL0274-F	FL DISPLAY	[M]
		FUSE CABLES	
FC502	RWJ4406087KK	6P FLAT CABLE	[M]
FC503	RWJ4403102KK	3P FLAT CABLE	[M]
FC601	RWJ1803085KK	3P WIRE	[M]
FC901	RWJ1803085KK	3P WIRE	[M]
		JACKS	
JK11	SJS9236-1	JK, SOCKET	[M] ⚠
JK321	GP1F32T	JK, OPT TERMINAL	[M]
JK801	RJH3201N-J	JK, RCA	[M]
		EARTH TERMINAL	
E400	SNE1004-2	EARTH TERMINAL	[M]

■ Resistors & Capacitors

Notes : • Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors),etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
  Parts without these indication can be used for all areas.
- [M] in Remarks column indicates parts that are supplied by **MESA**.
- Capacitor values are in microfarad (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
- Resistors values are in ohms, unless specified otherwise, 1k=1,000(OHM), 1M=1,000k(OHM)

Ref No.	Part No.	Values & Remarks
	RESISTORS	
R11	ERDS2TJ181T	180 1/4W [M]
R12	ERDS2TJ181T	180 1/4W [M]
R17	ERQ16NKWR15E	0.15 1/6W [M]
R19	ERDS2TJ221T	220 1/4W [M]
R21	ERDS2TJ122T	1.2K 1/4W [M]
R22	ERDS2TJ122T	1.2K 1/4W [M]
R31	ERDS2TJ123T	12K 1/4W [M]
R32	ERDS2TJ103T	10K 1/4W [M]
R33	ERDS2TJ103T	10K 1/4W [M]
R34	ERDS2TJ101T	100 1/4W [M]
R41	ERDS2TJ471T	470 1/4W [M]
R42	ERDS2TJ1R0T	1 1/4W [M]
R43	ERDS2TJ1R0T	1 1/4W [M]
R51	ERDS2TJ562T	5.6K 1/4W [M]
R52	ERDS2TJ562T	5.6K 1/4W [M]
R53	ERDS2TJ103T	10K 1/4W [M]
R54	ERDS2TJ223T	22K 1/4W [M]
R312	ERDS2TJ223T	22K 1/4W [M]
R317	ERDS2TJ471T	470 1/4W [M]
R318	ERDS2TJ471T	470 1/4W [M]
R319	ERDS2TJ471T	470 1/4W [M]
R401	ERDS2TJ472T	4.7K 1/4W [M]
R402	ERDS2TJ472T	4.7K 1/4W [M]
R403	ERDS2TJ472T	4.7K 1/4W [M]
R404	ERDS2TJ472T	4.7K 1/4W [M]
R405	ERDS2TJ472T	4.7K 1/4W [M]
R406	ERDS2TJ472T	4.7K 1/4W [M]
R407	ERDS2TJ472T	4.7K 1/4W [M]
R409	ERDS2TJ182T	1.8K 1/4W [M]
R410	ERDS2TJ103T	10K 1/4W [M]
R411	ERDS2TJ472T	4.7K 1/4W [M]
R412	ERDS2TJ223T	22K 1/4W [M]
R413	ERDS2TJ103T	10K 1/4W [M]
R414	ERDS2TJ471T	470 1/4W [M]
R415	ERDS2TJ103T	10K 1/4W [M]
R416	ERDS2TJ102T	1K 1/4W [M]
R417	ERDS2TJ103T	10K 1/4W [M]
R418	ERDS2TJ821T	820 1/4W [M]
R419	ERDS2TJ821T	820 1/4W [M]

Ref No.	Part No.	Values & Remarks
R421	ERDS2TJ103T	10K 1/4W [M]
R461	ERDS2TJ121T	120 1/4W [M]
R462	ERDS2TJ221T	220 1/4W [M]
R463	ERDS2TJ121T	120 1/4W [M]
R471	ERDS2TJ103T	10K 1/4W [M]
R472	ERDS2TJ221T	220 1/4W [M]
R601	ERDS2TJ121T	120 1/4W [M]
R602	ERDS2TJ121T	120 1/4W [M]
R603	ERDS2TJ121T	120 1/4W [M]
R604	ERDS2TJ121T	120 1/4W [M]
R605	ERDS2TJ121T	120 1/4W [M]
R607	ERDS2TJ122T	1.2K 1/4W [M]
R701	ERJ6GEYJ4R7A	4.7 1/10W[M]
R702	ERJ6GEYJ822A	8.2K 1/10W[M]
R703	ERJ6GEYJ823A	82K 1/10W[M]
R704	ERJ6GEYJ102A	1K 1/10W[M]
R705	ERJ6GEYJ124A	120K 1/10W[M]
R706	ERJ6GEYJ102A	1K 1/10W[M]
R707	ERJ6GEYJ474A	470K 1/10W[M]
R708	ERJ6GEYJ154A	150K 1/10W[M]
R709	ERJ6GEYJ473A	47K 1/10W[M]
R710	ERJ6GEYJ103A	10K 1/10W[M]
R711	ERJ6GEYJ154A	150K 1/10W[M]
R712	ERJ6GEYJ221A	220 1/10W[M]
R714	ERJ6GEYJ121A	120 1/10W[M]
R715	ERJ6GEYJ122A	1.2K 1/10W[M]
R717	ERJ6GEYJ102A	1K 1/10W[M]
R718	ERJ6GEYJ102A	1K 1/10W[M]
R719	ERJ8GEY0R00A	0 1/8W [M]
R720	ERJ6GEY0R00A	0 1/10W[M]
R721	ERJ6GEYJ101A	100 1/10W[M]
R722	ERJ6GEYJ563A	56K 1/10W[M]
R723	ERJ6GEYJ182A	1.8K 1/10W[M]
R724	ERJ6GEYJ333A	33K 1/10W[M]
R725	ERJ6GEYJ122A	1.2K 1/10W[M]
R726	ERJ6GEYJ473A	47K 1/10W[M]
R727	ERJ6GEYJ682A	6.8K 1/10W[M]
R728	ERJ6GEYJ682A	6.8K 1/10W[M]
R729	ERJ6GEYJ562A	5.6K 1/10W[M]
R731	ERJ6GEYJ822A	8.2K 1/10W[M]

Ref No.	Part No.	Values & Remarks
R735	ERJ6GEYJ101A	100 1/10W[M]
R736	ERJ6GEYJ101A	100 1/10W[M]
R744	ERJ6GEYJ104A	100K 1/10W[M]
R745	ERJ6GEYJ155A	1.5M 1/10W[M]
R748	ERJ6GEYJ182A	1.8K 1/10W[M]
R749	ERJ6GEYJ682A	6.8K 1/10W[M]
R752	ERJ8GEYJ220A	22 1/8W [M]
R803	ERDS2TJ224T	220K 1/4W [M]
R804	ERDS2TJ224T	220K 1/4W [M]
R805	ERDS2TJ822T	8.2K 1/4W [M]
R806	ERDS2TJ822T	8.2K 1/4W [M]
R807	ERDS2TJ123T	12K 1/4W [M]
R808	ERDS2TJ123T	12K 1/4W [M]
R809	ERDS2TJ333T	33K 1/4W [M]
R810	ERDS2TJ333T	33K 1/4W [M]
R811	ERDS2TJ333T	33K 1/4W [M]
R812	ERDS2TJ333T	33K 1/4W [M]
R813	ERDS2TJ102T	1K 1/4W [M]
R814	ERDS2TJ102T	1K 1/4W [M]
R815	ERDS2TJ472T	4.7K 1/4W [M]
R816	ERDS2TJ472T	4.7K 1/4W [M]
R817	ERDS2TJ473T	47K 1/4W [M]
R818	ERDS2TJ473T	47K 1/4W [M]
R819	ERDS2TJ100T	10 1/4W [M]
R820	ERDS2TJ100T	10 1/4W [M]
R851	ERDS2TJ562T	5.6K 1/4W [M]
R852	ERDS2TJ102T	1K 1/4W [M]
	CAPACITORS	
C11	ECBT1H103ZF5	0.01 50V [M]
C12	RCEA1C332B-S	3300P 16V [M]
C15	ECBT1H102KB5	1000P 50V [M]
C16	ECEA1AM471B	470 10V [M]
C17	ECEA0JKA101B	100 6.3V [M]
C20	ECBT1H103ZF5	0.01 50V [M]
C21	RCA1VM101BT	100P 35V [M]
C22	RCA1EM101BT	100P 25V [M]
C25	ECBT1H102KB5	1000P 50V [M]
C26	ECBT1H102KB5	1000P 50V [M]
C30	ECBT1H103ZF5	0.01 50V [M]

Ref No.	Part No.	Values & Remarks
C31	RCA1HM470BT	47P 50V [M]
C32	RCA1HM470BT	47P 50V [M]
C33	ECBT1H102KB5	1000P 50V [M]
C42	ECEA0JKA101B	100 6.3V [M]
C43	ECBT1H102KB5	1000P 50V [M]
C301	ECBT1C103NS5	0.01 16V [M]
C304	ECBT1H101KB5	100P 50V [M]
C305	ECBT1H101KB5	100P 50V [M]
C306	ECBT1H471KB5	470P 50V [M]
C314	ECBT1C103NS5	0.01 16V [M]
C321	ECBT1C103MS5	0.01 16V [M]
C322	ECEA0JKA101B	100 6.3V [M]
C401	ECBT1C103NS5	0.01 16V [M]
C402	ECA0JM471B	470 6.3V [M]
C403	ECEA1HKA010B	1 50V [M]
C404	ECEA1EKA4R7B	4.7 25V [M]
C405	ECBT1C103NS5	0.01 16V [M]
C406	ECEA1HKA010B	1 50V [M]
C407	ECBT1H104ZF5	0.1 50V [M]
C408	ECBT1H331KB5	330P 50V [M]
C409	ECBT1H104ZF5	0.1 50V [M]
C421	ECBT1H102KB5	1000P 50V [M]
C461	ECEA1AKA470B	47 10V [M]
C462	ECBT1C103NS5	0.01 16V [M]
C601	ECBT1H104ZF5	0.1 50V [M]
C602	ECBT1H102KB5	1000P 50V [M]
C603	ECBT1H331KB5	330P 50V [M]
C604	ECBT1H104ZF5	0.1 50V [M]
C605	ECBT1C103NS5	0.01 16V [M]
C606	ECBT1H101KB5	100P 50V [M]
C701	ECEA0JKA330I	33 6.3V [M]
C702	ECUZ1E104MBN	0.1 25V [M]
C703	ECEA0JKA101I	100 6.3V [M]
C704	ECUZ1E104MBN	0.1 25V [M]
C706	ECUZ1H272KBN	2700P 50V [M]
C707	ECUZ1E273KBN	0.027 25V [M]
C708	ECUZ1H392KBN	3900P 50V [M]
C709	ECUZ1E563KBN	0.056 25V [M]
C710	ECUV1H151KCN	150P 50V [M]
C711	ECUZ1E104ZFN	0.1 25V [M]

Ref No.	Part No.	Values & Remarks
C712	ECUZ1E104ZFN	0.1 25V [M]
C713	ECUZ1E104MBN	0.1 25V [M]
C714	ECEA0JKA101I	100 6.3V [M]
C715	ECUZ1H182KBN	1800P 50V [M]
C716	ECUZ1H821KBN	820P 50V [M]
C717	ECUZ1E104ZFN	0.1 25V [M]
C718	ECUZ1C224KBN	0.22 16V [M]
C721	ECUZ1H100DCN	10P 50V [M]
C722	ECUZ1H100DCN	10P 50V [M]
C723	ECEA1AKA221I	220 10V [M]
C724	ECUZ1E104MBN	0.1 25V [M]
C725	ECUZ1H102KBN	1000P 50V [M]
C726	ECUZ1H102KBN	1000P 50V [M]
C730	ECUZ1E104ZFN	0.1 25V [M]
C731	ECEA0JKA221I	220 6.3V [M]
C732	ECEA0JKA221I	220 6.3V [M]
C733	ECUZ1E104MBN	0.1 25V [M]
C734	ECEA1AKA221I	220 10V [M]
C735	ECUZ1E104ZFN	0.1 25V [M]
C736	ECUZ1E104ZFN	0.1 25V [M]
C737	ECUZ1E104ZFN	0.1 25V [M]
C738	ECUZ1E104MBN	0.1 25V [M]
C739	ECUZ1H102KBN	1000P 50V [M]
C742	ECUZ1E273KBN	0.027 25V [M]
C743	ECUZ1E104ZFN	0.1 25V [M]
C744	ECUZ1E123KBN	0.012 25V [M]
C745	ECUZ1H102KBN	1000P 50V [M]
C747	ECUV1H221KBN	220P 50V [M]
C749	ECUZ1H222KBN	2200P 50V [M]
C750	ECUZ1E104MBN	0.1 25V [M]
C751	ECUZ1E104MBN	0.1 25V [M]
C753	ECUZ1H471KBM	470P 50V [M]
C762	ECUZ1H471KBN	470P 50V [M]
C801	ECEA1AKA470B	47 10V [M]
C802	ECEA1AKA470B	47 10V [M]
C803	ECEA1CKA100B	10 16V [M]
C804	ECEA1CKA100B	10 16V [M]
C805	ECCR1H391J5	390P 50V [M]
C806	ECCR1H391J5	390P 50V [M]
C807	ECCR1H391J5	390P 50V [M]
C808	ECCR1H391J5	390P 50V [M]
C809	ECEA0JKA470B	47 6.3V [M]
C810	ECEA0JKA470B	47 6.3V [M]
C811	ECBT1H102KB5	1000P 50V [M]
C812	ECBT1H102KB5	1000P 50V [M]
	CHIP JUMPER	
RJ701	ERJ6GEY0R00A	0 1/10W[M]
RJ702	ERJ8GEY0R00A	0 1/8W [M]
RJ703	ERJ8GEY0R00A	0 1/8W [M]
RJ704	ERJ8GEY0R00A	0 1/8W [M]
RJ705	ERJ8GEY0R00A	0 1/8W [M]
RJ706	ERJ8GEY0R00A	0 1/8W [M]
RJ707	ERJ8GEY0R00A	0 1/8W [M]
RJ708	ERJ8GEY0R00A	0 1/8W [M]
RJ709	ERJ8GEY0R00A	0 1/8W [M]
RJ710	ERJ8GEY0R00A	0 1/8W [M]
RJ715	ERJ8GEY0R00A	0 1/8W [M]
RJ716	ERJ8GEY0R00A	0 1/8W [M]
RJ717	ERJ8GEY0R00A	0 1/8W [M]
RJ721	ERJ6GEY0R00A	0 1/10W[M]
RJ722	ERJ6GEY0R00A	0 1/10W[M]
RJ724	ERJ6GEY0R00A	0 1/10W[M]
RJ725	ERJ6GEY0R00A	0 1/10W[M]
RJ726	ERJ6GEY0R00A	0 1/10W[M]
RJ727	ERJ6GEY0R00A	0 1/10W[M]
RJ728	ERJ6GEY0R00A	0 1/10W[M]
RJ731	ERJ6GEY0R00A	0 1/10W[M]
RJ732	ERJ6GEY0R00A	0 1/10W[M]
RJ733	ERJ6GEY0R00A	0 1/10W[M]
	TEST JUMPER	
TJ701	EYF8CU	TEST JUMPER [M]

■ Packing Materials & Accessories

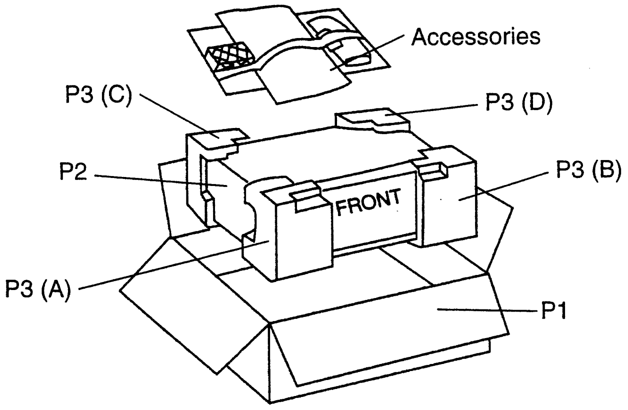
Notes :

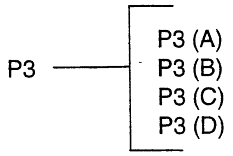
- * Important safety notice :
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors),etc. are used.
  When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
- * The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
- * Parts without these indication can be used for all areas.
- * The "(SF)" mark denotes the standard part.
- * [M] in Remarks column indicates parts supplied by **MESA**.
- * Remote Control Unit : Supply period for three years from termination of production.
- * Reference for O/I book languages are as follows :

Ar : Arabic
Du : Dutch
Po : Polish
Cf : Canadian French
En : English
Ru : Russian
C0 : Chinese (old)
Fr : French
Sp : Spanish
Cn : Chinese (new)
Ge : German
Sw : Swedish
Cz : Czech
It : Italian
Da : Danish
Ko : Korean

Ref No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGX0541	PACKING CASE	[M]EB
P1	RPGX0542	PACKING CASE	[M]EG E
P2	RPFX0005	MIRAMAT BAG	[M]
P3	RPNX0099	POLYFOAM	[M]EG E
P3	RPNX0100-1	POLYFOAM	[M]EB
		ACCESSORIES	
A1	RAK-SL948WK	REMOTE CONTROL	[M]
A1-1	251200F1A	R/C BATTERY COVER	[M]
A2	RJA0019-2K	AC CORD (SF) ⚠	[M]EG E
A2	RJA0053-2X	AC CORD ⚠	[M]EB
A3	RJL2P004B08A	STEREO CONNECTOR	[M]
A4	RQT4753-E	O/I BOOK (En/Sp/Sw)	[M]E
A4	RQT4754-R	O/I BOOK (Ru/Cz/Po)	[M]E
A4	RQT4755-D	O/I BOOK (Ge/It/Fr)	[M]EG
A4	RQT4756-H	O/I BOOK (Du/Da)	[M]EG
A4	RQT4757-B	O/I BOOK (En)	[M]EB

■ Packaging





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Order No. MD0010166P0

Parts Change Notice

Model No. SL-MC3/4/50/59/60/70P/PC-K, SL-MC6/7/310/410 all series, SL-PD5/788P/PC-K, SL-PD10/988PP-K & SL-PD6/8/349/688/888 all series

Please revise the original parts list in the Service Manual to conform to the change(s) shown herein.
If new part numbers are shown, be sure to use then ordering parts.

Reason for Change

*The "▲" item indicates the reason. If no marking, see the Notes in the bottom column.

	1. Improve performance	
	2. Change of material or dimension	
	3. To meel approved specification	
	4. Standardization	
	5. Addition	
	6. Deletion	
▲	7. Correction	
	8. Other	

Interchangeability Code

**The "▲" item indicates the interchangeability. If no marking, see the Notes in the bottom column.

	Parts	Set Production	
	A Original New	Early Late	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
	B Original New	Early Late	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
▲	C Original New	Early Late	New parts only may be used in early or late production sets. Stock new parts.
	D Original New	Early Late	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
	E Other		

Part Number

Model No.	Ref. No.	Original Part No.	New Part No.	Notes	Part Name & Descriptions
SL-MC3/4/50/59/60/70/410 P/PC-K SL-MC6/7/310 all series SL-PD5/788P/PC-K SL-PD10/988PP-K SL-PD6/8/349/688/888 all series	IC702	MN662741RPA [M]	MN662741RPAL [M]	7,C	IC LSI
SL-MC410E/EB/EG/GC/GN-K	IC702	MN662740RM1 [M]	MN662741RPAL [M]	7,C	IC LSI

Please note that the T.I. No. is 20675 (For Factory Reference only). File this Parts Change Notice with your copy of Service Manuals.

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